TEST REPORT

Dt&C Co., Ltd.
42, Yurim-ro, 154Beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea, 17042
Tel : 031-321-2664, Fax : 031-321-1664

1. Report No : DRTFCC2507-0042(1)

2. Customer

- Name (FCC) : LG Electronics Inc. / Name (ISED): LG ELECTRONICS INC.
- Address (FCC) : 222 LG-ro, Jinwi-myeon, Pyeongtaek-si, Gyeonggi-do, South Korea, 17709
  Address (ISED) : 222, LG-ro, Jinwi-myeon Pyeongtaek-si, Gyeonggi-do 451-713 Korea (Republic Of)

3. Use of Report : FCC & ISED Original Certification

4. Product Name / Model Name : RF Module / WC1NH25
   FCC ID : 2BO3L-WC1NH25
   IC : 2703H-WC1NH25

5. FCC Regulation(s): Part 15.247
   IC Standard(s): RSS-247 Issue 4, RSS-Gen Issue 5
   Test Method used: ANSI C63.10-2020, KDB558074 D01v05r02, KDB662911 D01v02r01

6. Date of Test : 2025.06.13 ~ 2025.07.21

7. Location of Test : ☒ Permanent Testing Lab ☐ On Site Testing

8. Testing Environment : See appended test report.

9. Test Result : Refer to the attached test result.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
This test report is not related to KOLAS accreditation.

Affirmation	Tested by Name : SeungMin Gil (Signature)	Technical Manager Name : JaeJin Lee (Signature)

2025 . 07 . 29 .

Dt&C Co., Ltd.

If this report is required to confirmation of authenticity, please contact to report@dtnc.net

Test Report Version

Test Report No.	Date	Description	Revised by	Reviewed by
DRTFCC2507-0042	Jul, 22. 2025	Initial issue	SeungMin Gil	JaeJin Lee
DRTFCC2507-0042(1)	Jul, 29. 2025	Update standard	SeungMin Gil	JaeJin Lee

Table of Contents

1. General Information

1.1. Description of EUT

Equipment Class	Digital Transmission System (DTS)
Product Name	RF Module
Model Name	WC1NH25
Add Model Name	NA
Firmware Version Identification Number	V1.0
EUT Serial Number	Conducted: 2504020190000(MAC: 287B11F3990C) Radiated: 2504020190000(MAC: 287B11F38D36)
Power Supply	DC 3.3 V
Modulation Technique	▪ 802.11ax: OFDM, OFDMA
Antenna Specification	Antenna Type: FPC Antenna Gain: Refer to the table below

Bands	Antenna	SISO		MIMO (CDD) Note 1.
		ANT 1 (dBi)	ANT 2 (dBi)	Directional Gain (dBi)
2.4 GHz	**M5(WIFI)**	**3.35**	**4.21**	6.80
	M3(WIFI)	1.71	1.42	4.58
	S7(WIFI)	1.78	2.11	4.96

Note 1. Directional gain (Correlated signal with unequal antenna gain and equal transmit power)

$10 \log [(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2 / N_{ANT}]$ dBi

Band	Mode	Tx. frequency(MHz)	Max. conducted power(dBm)	Max. Antenna gain(dBi)	Max. e.i.r.p (dBm)
2.4 GHz	802.11ax(HE20)	2 412 ~ 2 462	27.04	6.80	33.84
	802.11ax(HE40)	2 422 ~ 2 452	27.73	6.80	34.53

Note: e.i.r.p = P_{cond} + G_{EUT}

P_{cond} = measured power at feedpoint of the EUT antenna, in dBm (Peak Conducted Output Power)

G_{EUT} = gain of the EUT radiating element (antenna), in dBi

1.2. Declaration by the applicant / manufacturer

N/A

1.3. Testing Laboratory

Dt&C Co., Ltd.		
The 3 m test site and conducted measurement facility used to collect the radiated data are located at the 42, Yurim-ro, 154beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea 17042. The test site complies with the requirements of Part 2.948. **- FCC & IC MRA Designation No. : KR0034** **- ISED#: 5740A**		
www.dtnc.net		
Telephone	:	+ 82-31-321-2664
FAX	:	+ 82-31-321-1664

1.4. Testing Environment

Ambient Condition	
▪ Temperature	+20 ℃ ~ +25 ℃
▪ Relative Humidity	+35 % ~ +45 %

1.5. Measurement Uncertainty

The measurement uncertainties shown below were calculated in accordance with requirements of ANSI C63.10-2020. All measurement uncertainty values are shown with a coverage factor of k = 2 to indicate a 95 % level of confidence.

Parameter	Measurement uncertainty
Antenna-port conducted emission	1.0 dB (The confidence level is about 95 %, k = 2)
AC power-line conducted emission	3.4 dB (The confidence level is about 95 %, k = 2)
Radiated emission (1 GHz Below)	5.0 dB (The confidence level is about 95 %, k = 2)
Radiated emission (1 GHz ~ 18 GHz)	4.8 dB (The confidence level is about 95 %, k = 2)
Radiated emission (18 GHz Above)	5.8 dB (The confidence level is about 95 %, k = 2)

1.6. Test Equipment List

Type	Manufacturer	Model	Cal.Date (yy/mm/dd)	Next.Cal.Date (yy/mm/dd)	S/N
Spectrum Analyzer	KEYSIGHT	N9020A	24/11/27	25/11/27	MY50410272
Spectrum Analyzer	KEYSIGHT	N9020A	24/11/28	25/11/28	MY53309959
Spectrum Analyzer	Agilent Technologies	N9020A	25/05/26	26/05/26	US47360812
Spectrum Analyzer	Agilent Technologies	N9020A	24/11/26	25/11/26	MY50410399
Multimeter	FLUKE	17B	24/11/27	25/11/27	26030065WS
Signal Generator	Rohde Schwarz	SMBV100A	24/12/10	25/12/10	255571
Signal Generator	KEYSIGHT	M9383A	24/12/10	25/12/10	E76F804A28
Thermohygrometer	BODYCOM	BJ5478	24/12/17	25/12/17	090205-4
Thermohygrometer	BODYCOM	BJ5478	24/12/05	25/12/05	120612-2
Thermohygrometer	BODYCOM	BJ5478	25/05/29	26/05/29	N/A
Loop Antenna	ETS-Lindgren	6502	24/11/08	26/11/08	00060496
Hybrid Antenna	Schwarzbeck	VULB 9160	24/12/13	25/12/13	3362
Horn Antenna	ETS-Lindgren	3117	25/05/27	26/05/27	00143278
Horn Antenna	A.H.Systems Inc.	SAS-574	25/06/12	26/06/12	155
PreAmplifier	tsj	MLA-0118-B01-40	24/11/26	25/11/26	1852267
PreAmplifier	tsj	MLA-1840-J02-45	25/05/29	26/05/29	16966-10728
PreAmplifier	H.P	8447D	24/12/11	25/12/11	2944A07774
High Pass Filter	Wainwright Instruments	WHKX12-935-1000-15000-40SS	25/05/26	26/05/26	8
High Pass Filter	Wainwright Instruments	WHKX10-2838-3300-18000-60SS	25/05/26	26/05/26	1
High Pass Filter	Wainwright Instruments	WHNX8.0/26.5-6SS	25/05/26	26/05/26	3
Attenuator	Hefei Shunze	SS5T2.92-10-40	25/05/26	26/05/26	16012202
Attenuator	Aeroflex/Weinschel	56-3	25/05/26	26/05/26	Y2370
Attenuator	SMAJK	SMAJK-2-3	25/05/26	26/05/26	3
Attenuator	SMAJK	SMAJK-2-3	25/05/26	26/05/26	2
Attenuator	SMAJK	SMAJK-50-10	25/05/26	26/05/26	3-50-10
Power Meter & Wide Bandwidth Sensor	Anritsu	ML2496A MA2490A MA2411B	24/12/12 24/12/11	25/12/12 25/12/11	1338004 1249303 1911481
EMI Receiver	ROHDE&SCHWARZ	ESCI7	25/01/20	26/01/20	100910
PULSE LIMITER	Rohde Schwarz	ESH3-Z2	24/08/21	25/08/21	101333
LISN	SCHWARZBECK	NSLK 8128 RC	24/10/21	25/10/21	8128 RC-387
Digital Thermo Hygrometer	CAS	TE-303N	25/02/13	26/02/13	220502531
Cable	Dt&C	Cable	25/01/02	26/01/02	G-2
Cable	HUBER+SUHNER	SUCOFLEX 100	25/01/02	26/01/02	G-3
Cable	Dt&C	Cable	25/01/02	26/01/02	G-4
Cable	OMT	YSS21S	25/01/02	26/01/02	G-5
Cable	Junkosha	MWX241	25/01/02	26/01/02	mmW-1
Cable	Junkosha	MWX241	25/01/02	26/01/02	mmW-4
Cable	HUBER+SUHNER	SUCOFLEX100	25/01/02	26/01/02	M-01
Cable	HUBER+SUHNER	SUCOFLEX100	25/01/02	26/01/02	M-02
Cable	JUNKOSHA	MWX241/B	25/01/02	26/01/02	M-03
Cable	JUNKOSHA	J12J101757-00	25/01/02	26/01/02	M-07
Cable	HUBER+SUHNER	SUCOFLEX106	25/01/02	26/01/02	M-09
Cable	Dt&C	Cable	25/01/02	26/01/02	RFC-69
Cable	Radiall	TESTPRO3	25/01/02	26/01/02	RFC-70
Cable	Radiall	TESTPRO3	25/01/02	26/01/02	RFC-01
Test Software (Radiated)	tsj	EMI Measurement	NA	NA	Version 2.00.0185
Test Software	tsj	Noise Terminal Measurement	NA	NA	Version 2.00.0190
3m Semi Anechoic Chamber	SYC	3m-SAC	25/06/13(NSA) 25/06/19(VSWR)	26/06/13(NSA) 26/06/19(VSWR)	3m-SAC-1
3m Semi Anechoic Chamber	SYC	3m-SAC	25/01/14(NSA) 25/01/17(VSWR)	26/01/14(NSA) 26/01/17(VSWR)	3m-SAC-2

Note1: The measurement antennas were calibrated in accordance to the requirements of ANSI C63.5-2017.
Note2: The cable is not a regular calibration item, so it has been calibrated by Dt&C itself.

2. Test Methodology

The measurement procedures described in the ANSI C63.10-2020 and the guidance provided in KDB558074 D01v05r02 were used in measurement of the EUT.
The EUT was tested per the guidance of KDB558074 D01v05r02. And ANSI C63.10-2020 was used to reference appropriate EUT setup and maximizing procedures of radiated spurious emission and AC line conducted emission testing.

2.1. EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

2.2. EUT Exercise

The EUT was operated in the test mode to fix the TX frequency that was for the purpose of the measurements. According to its specifications, the EUT must comply with the requirements of the Section 15.207, 15.209 and 15.247 under the FCC Rules Part 15 Subpart C.

2.3. General Test Procedures

Conducted Emissions

The power-line conducted emission test procedure is not described on the KDB558074 D01v05r02.
So this test was fulfilled with the requirements in Section 6.2 of ANSI C63.10-2020.
The EUT is placed on the wooden table, which is 0.8 m above ground plane and the conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-peak and Average detector.

Radiated Emissions

Basically the radiated tests were performed with KDB558074 D01v05r02. But some requirements and procedures like test site requirements, EUT setup and maximizing procedure were fulfilled with the requirements in Section 5 and 6 of the ANSI C63.10-2020 as stated on section 3 of the KDB558074 D01v05r02.
The EUT is placed on a non-conductive table. For emission measurements at or below 1 GHz, the table height is 80 cm. For emission measurements above 1 GHz, the table height is 1.5 m. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3 m away from the receiving antenna, which varied from 1 m to 4 m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.

2.4. Instrument Calibration

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

2.5. Description of Test Modes

The EUT has been tested with the operating condition for maximizing the emission characteristics. A test program is used to control the EUT for staying in continuous transmitting.

Transmitting Configuration of EUT

Mode	SISO		MIMO(CDD)	MIMO(SDM)
	Ant 1	Ant 2	Ant 1 & 2	Ant 1 & 2
802.11ax(HE20)	MCS 0 ~ 11(1SS)	MCS 0 ~ 11(1SS)	MCS 0 ~ 11(1SS)	MCS 0 ~ 11(2SS)
802.11ax(HE40)	MCS 0 ~ 11(1SS)	MCS 0 ~ 11(1SS)	MCS 0 ~ 11(1SS)	MCS 0 ~ 11(2SS)

Note1: SDM = Spatial Diversity Multiplexing, CDD = Cycle Delay Diversity, SS = Spatial Streams

Test Mode

Test mode	Worst case data rate	ANT configuration	Tested Frequency (MHz)				
TM 1	802.11ax(HE20) MCS 0	CDD Multiple transmitting	2 412	2 437	2 462Note2	2 467Note2	2 472
TM 2	802.11ax(HE40) MCS 0	CDD Multiple transmitting	2 422	2 437	2 452Note2	2 457Note2	2 462

Note 1: The worst case data rate was determined according to the power measurements.
Note 2: At these frequencies, only output power and radiated emission measurements were performed.

EUT Operation test setup

- Test Software: MT7961 QA 0.0.2.39

- Power setting:

Tones(RU Index)	802.11ax(HE20)		
	Channel	Frequency (MHz)	Power Setting
26(0, 4, 8)	1	2 412	13.5
	6	2 437	15
	11	2 462	12.5
	12	2 467	12
	13	2 472	0.5
52(37, 38, 40)	1	2 412	14.5
	6	2 437	15
	11	2 462	13.5
	12	2 467	12.5
	13	2 472	1.5
106(53, 54)	1	2 412	13
	6	2 437	15
	11	2 462	14
	12	2 467	10
	13	2 472	1
242(61)	1	2 412	12.5
	6	2 437	15
	11	2 462	11
	12	2 467	7
	13	2 472	5.5
SU	1	2 412	12.5
	6	2 437	15
	11	2 462	11.5
	12	2 467	7
	13	2 472	4

Tones(RU Index)	802.11ax(HE40)		
	Channel	Frequency (MHz)	Power Setting
26(0, 8, 17)	3	2 422	14
	6	2 437	14
	9	2 452	13.5
	10	2 457	13.5
	11	2 462	2.5
52(37, 40, 44)	3	2 422	14
	6	2 437	14
	9	2 452	14
	10	2 457	12.5
	11	2 462	3
106(53, 54, 56)	3	2 422	13
	6	2 437	14
	9	2 452	14
	10	2 457	11
	11	2 462	2
242(61, 62)	3	2 422	12.5
	6	2 437	14
	9	2 452	11
	10	2 457	7
	11	2 462	5.5
484(65)	3	2 422	11.5
	6	2 437	14
	9	2 452	9
	10	2 457	7
	11	2 462	5
SU	3	2 422	12
	6	2 437	14
	9	2 452	11
	10	2 457	8.5
	11	2 462	5.5

3. Antenna Requirements

▣ **According to Part 15.203**

“An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.”

The antenna employs a unique antenna connector.(Refer to Internal photo file.)
Therefore this E.U.T complies with the requirement of Part 15.203

4. Summary of Test Result

FCC part section(s)	RSS section(s)	Test Description	Limit	Test Condition	Status Note 1
15.247(a)	RSS-247[6.3.1]	6 dB Bandwidth	> 500 kHz	Conducted	C
15.247(b)	RSS-247[6.3.2]	Maximum Peak Output Power	< 1 Watt (conducted), FCC & ISED < 4 Watt (e.i.r.p), ISED		C
15.247(d)	RSS-247[6.6]	Unwanted Emissions(Conducted)	20 dBc in any 100 kHz BW		C
15.247(e)	RSS-247[6.3.1]	Power Spectral Density	< 8 dBm / 3 kHz		C
-	RSS-Gen[6.7]	Occupied Bandwidth (99 %)	NA		C
15.247(d) 15.205 15.209	RSS-247[6.6] RSS-Gen[8.9] RSS-Gen[8.10]	Unwanted Emissions(Radiated)	Part 15.209 limits (Refer to section 5.5)	Radiated	C Note 2, 3
15.207	RSS-Gen[8.8]	AC Power-Line Conducted Emissions	Part 15.207 limits (Refer to section 5.6)	AC Line Conducted	C
15.203	-	Antenna Requirements	Part 15.203 (Refer to section 3)	-	C

Note 1: **C**=Comply **NC**=Not Comply **NT**=Not Tested **NA**=Not Applicable
Note 2: This test item was performed in three orthogonal EUT positions and the worst case data was reported.
Note 3: The radiated emission test was performed using the highest gain antenna(Model: M5), and the results are reported. Spot check testing was performed for antennas with lower gain, and the results were similar to or lower than those of the highest gain antenna.

5. Test Result

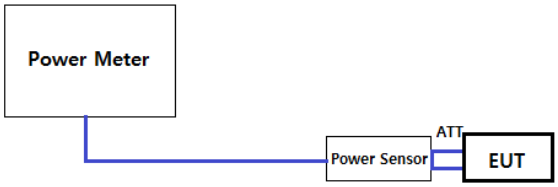
5.1. Maximum Peak Output Power

▣ Test Requirements and limit, Part 15.247(b) & RSS-247[6.3.2]

The maximum permissible conducted output power is 1 Watt.

The e.i.r.p. shall not exceed 4 W, except as provided in section 6.3.2 of RSS-247.

5.1.1. Test Setup



5.1.2. Test Procedures

- **KDB558074 D01v05r02 - Section 8.3.1.3**
- **ANSI C63.10-2020 – Section 11.9.1.1**

PKPM1 Peak power meter method

The maximum peak conducted output power may be measured using a broadband peak RF power meter.

The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall use a fast responding diode detector.

- **KDB558074 D01v05r02 - Section 8.3.2.3**
- **ANSI C63.10-2020 – Section 11.9.2.3.2**

Method AVGPM-G

Method AVGPM-G is a measurement using a gated RF average power meter.

Alternatively, measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Because the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

5.1.3. Test Results

- Refer to the next page

ANT	Tones	RU Index	Det.	Maximum Peak Conducted Output Power (dBm) for *802.11ax(HE20)*				
				Freq.(MHz)				
				CDD				
				2 412	2 437	2 462	2 467	2 472
ANT 1	26	0	PK	23.86	23.78	21.68	21.59	12.13
			AV	14.27	16.15	13.74	13.41	2.63
		4	PK	23.77	23.72	21.54	21.50	12.07
			AV	14.47	16.05	13.61	13.27	2.55
		8	PK	23.85	23.81	21.66	12.63	12.18
			AV	14.50	16.00	13.70	13.50	2.77
	52	37	PK	23.94	23.76	23.32	22.65	14.18
			AV	15.95	16.21	14.66	13.90	3.71
		38	PK	23.86	23.72	23.19	22.71	14.10
			AV	15.89	16.28	14.50	13.82	3.59
		40	PK	23.99	23.74	23.44	22.71	14.28
			AV	15.78	16.09	14.52	13.84	3.45
	106	53	PK	23.62	23.70	23.49	20.92	12.31
			AV	14.73	16.16	15.07	11.78	3.40
		54	PK	23.54	23.64	23.33	20.77	12.45
			AV	14.56	16.12	15.53	11.64	3.19
	242	61	PK	22.96	23.58	22.00	18.22	17.14
			AV	13.75	16.00	12.22	8.59	7.20
	SU	-	PK	22.56	22.56	22.61	19.73	15.75
			AV	13.97	13.97	15.92	12.67	5.96
ANT 2	26	0	PK	23.78	23.77	22.38	22.71	12.31
			AV	15.35	16.64	14.24	13.89	3.21
		4	PK	23.64	23.62	22.45	22.63	12.28
			AV	15.55	16.55	14.18	13.58	3.34
		8	PK	23.79	23.53	22.41	22.46	12.36
			AV	15.32	16.43	14.30	13.63	3.33
	52	37	PK	24.11	24.13	23.67	23.30	14.31
			AV	16.36	16.62	15.21	14.35	4.30
		38	PK	23.95	24.05	23.53	23.26	14.38
			AV	16.33	16.53	15.47	14.37	4.15
		40	PK	23.99	24.07	23.39	23.22	14.22
			AV	16.41	16.58	15.10	14.22	4.08
	106	53	PK	24.00	23.98	23.72	21.60	14.35
			AV	15.17	16.62	15.51	12.18	3.96
		54	PK	23.86	23.75	23.55	21.52	14.29
			AV	15.13	16.48	15.43	12.11	3.88
	242	61	PK	23.80	23.86	22.19	18.57	17.71
			AV	14.28	16.46	12.97	9.09	7.72
	SU	-	PK	22.51	22.51	23.25	20.33	15.95
			AV	14.50	14.50	16.43	13.30	6.53
Sum (ANT 1+2)	26	0	PK	26.83	26.79	25.05	25.20	15.23
		4	PK	26.72	26.68	25.03	25.11	15.19
		8	PK	26.83	26.68	25.06	22.89	15.28
	52	37	PK	**27.04**	26.96	26.51	26.00	17.26
		38	PK	26.92	26.90	26.37	26.00	17.25
		40	PK	27.00	26.92	26.43	25.98	17.26
	106	53	PK	26.82	26.85	26.62	24.28	16.46
		54	PK	26.71	26.71	26.45	24.17	16.48
	242	61	PK	26.41	26.73	25.11	21.41	20.44
	SU	-	PK	25.55	25.55	25.95	23.05	18.86

ANT	Tones	RU Index	Det.	Maximum Peak Conducted Output Power (dBm) for *802.11ax(HE40)*				
				Freq.(MHz)				
				CDD				
				2 422	2 437	2 452	2457	2462
ANT 1	26	0	PK	24.76	24.32	24.15	24.07	15.56
			AV	16.01	16.04	15.63	15.71	5.22
		8	PK	24.65	24.77	24.37	24.29	15.60
			AV	16.43	16.32	15.95	15.88	5.35
		17	PK	24.57	24.53	24.10	24.04	15.29
			AV	16.05	16.20	15.88	15.64	5.29
	52	37	PK	24.40	24.53	24.54	23.49	16.12
			AV	15.92	16.42	16.22	14.83	5.53
		40	PK	24.61	24.64	24.61	23.93	16.14
			AV	16.36	16.60	16.33	14.95	5.56
		44	PK	24.66	24.46	24.53	23.57	16.09
			AV	15.99	16.39	16.13	14.78	5.34
	106	53	PK	24.05	24.44	24.22	23.04	14.15
			AV	14.86	15.86	15.83	13.00	4.44
		54	PK	24.31	24.45	24.33	23.09	14.32
			AV	15.10	16.03	15.89	13.14	4.48
		56	PK	24.35	24.59	24.43	23.25	14.33
			AV	14.97	16.09	16.06	13.15	4.49
	242	61	PK	23.30	24.45	23.05	19.98	18.91
			AV	14.37	15.91	13.22	9.12	7.79
		62	PK	23.25	24.08	22.98	19.78	18.78
			AV	14.31	15.82	13.15	8.89	7.74
	484	65	PK	23.58	24.41	21.34	19.03	17.54
			AV	13.60	16.00	10.90	8.91	7.04
	SU	-	PK	23.20	24.10	22.25	19.44	17.33
			AV	14.16	16.07	13.04	10.30	7.41
ANT 2	26	0	PK	24.61	24.51	24.33	24.16	15.03
			AV	15.98	16.35	16.22	16.08	5.58
		8	PK	24.66	24.67	24.51	24.22	15.07
			AV	16.19	16.45	16.27	16.22	5.52
		17	PK	24.45	24.57	24.43	24.08	14.87
			AV	16.11	16.08	16.20	16.15	5.56
	52	37	PK	23.96	24.07	24.22	23.58	15.44
			AV	16.43	16.12	16.53	15.20	5.68
		40	PK	24.53	24.45	24.50	23.99	15.64
			AV	16.56	16.20	16.63	15.21	5.72
		44	PK	24.49	24.31	24.42	23.85	15.46
			AV	16.23	16.11	16.51	15.08	5.70
	106	53	PK	24.22	24.53	24.63	23.10	15.18
			AV	15.38	16.28	16.45	13.53	4.77
		54	PK	24.16	24.67	24.50	23.53	15.24
			AV	15.35	16.53	16.34	13.53	4.46
		56	PK	24.30	24.69	24.55	23.46	15.10
			AV	15.42	16.44	16.50	13.57	4.83
	242	61	PK	23.41	24.59	23.23	20.40	18.89
			AV	14.86	16.40	13.40	9.56	8.10
		62	PK	23.25	24.35	23.17	20.46	18.46
			AV	14.73	16.32	13.22	9.78	8.25
	484	65	PK	23.60	24.56	21.41	19.80	17.89
			AV	14.34	16.57	11.60	9.65	7.66
	SU	-	PK	23.16	24.42	22.33	20.33	17.77
			AV	14.63	16.57	13.48	11.08	8.04

ANT	Tones	RU Index	Det.	Maximum Peak Conducted Output Power (dBm) for ***802.11ax(HE40)***				
				Freq.(MHz)				
				CDD				
				2 422	**2 437**	**2 452**	**2457**	**2462**
Sum (ANT 1+2)	26	0	PK	27.70	27.43	27.25	27.13	18.31
		8	PK	27.67	**27.73**	27.45	27.27	18.35
		17	PK	27.52	27.56	27.28	27.07	18.10
	52	37	PK	27.20	27.32	27.39	26.55	18.80
		40	PK	27.58	27.56	27.57	26.97	18.91
		44	PK	27.59	27.40	27.49	26.72	18.80
	106	53	PK	27.15	27.50	27.44	26.08	17.71
		54	PK	27.25	27.57	27.43	26.33	17.81
		56	PK	27.34	27.65	27.50	26.37	17.74
	242	61	PK	26.37	27.53	26.15	23.21	21.91
		62	PK	26.26	27.23	26.09	23.14	21.63
	484	65	PK	26.60	27.50	24.39	22.44	20.73
	SU	-	PK	26.19	27.27	25.30	22.92	20.57

5.2. 6 dB Bandwidth

▣ Test Requirements and limit, Part 15.247(a) & RSS-247[6.3.1]

The bandwidth at 6 dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the EUT's antenna terminal while the EUT is operating in transmission mode at the appropriate frequencies.

The minimum permissible 6 dB bandwidth is 500 kHz.

5.2.1. Test Setup

Refer to the APPENDIX I.

5.2.2. Test Procedures

- **KDB558074 D01v05r02 - Section 8.2**
- **ANSI C63.10-2020 – Section 11.8**

Option 1

1. Set RBW = shall be in the range of 1% to 5% of the OBW but not less than 100 kHz.
2. Set the VBW ≥ 3 x RBW.
3. Detector = **Peak**.
4. Trace mode = **max hold**.
5. Sweep = No faster than coupled (auto) time.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission by placing two markers, one at the lowest frequency and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the "−6 dB down amplitude". If a marker is below this "−6 dB down amplitude" value, then it shall be as close as possible to this value.

Option 2

The automatic bandwidth measurement capability of an instrument may be employed using the X dB bandwidth mode with X set to 6 dB, if the functionality described in 11.8.1 (i.e., RBW = 100 kHz, VBW ≥ 3 × RBW, and peak detector with maximum hold) is implemented by the instrumentation function.

When using this capability, care shall be taken so that the bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that might be ≥ 6 dB.

5.2.3. Test Results

TM 1

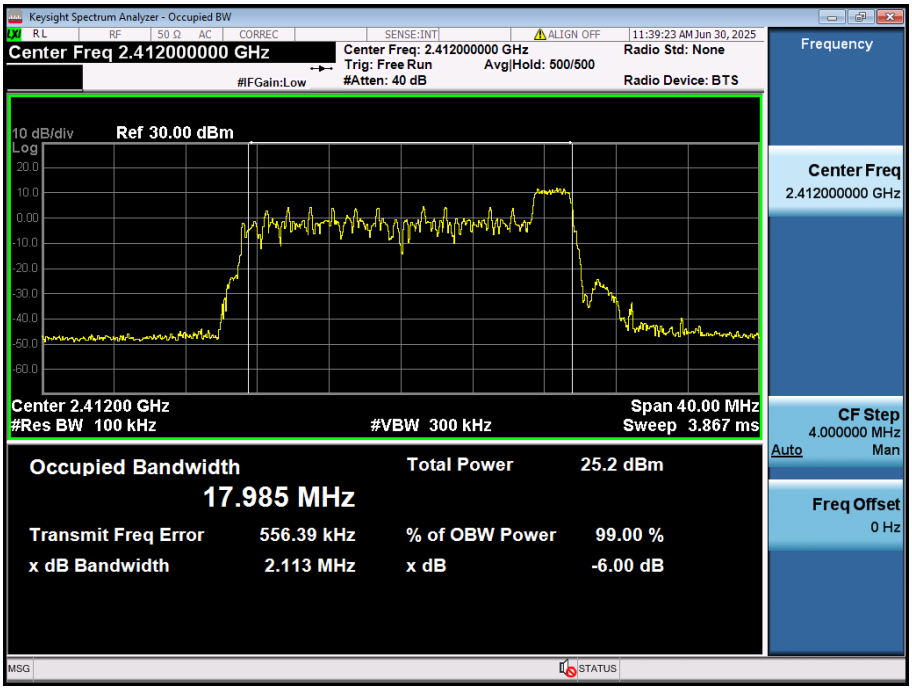
ANT	Tones	RU Index	Test Results(MHz)		
			2 412	2 437	2 472
ANT 1	26	0	2.13	**2.17**	2.11
		4	2.69	2.68	2.62
		8	**2.11**	2.17	**2.04**
	242	61	17.79	18.06	17.71
ANT 2	26	0	**2.09**	2.16	**2.11**
		4	2.67	2.65	2.64
		8	2.11	**2.06**	2.16
	242	61	18.48	18.52	18.65

TM 2

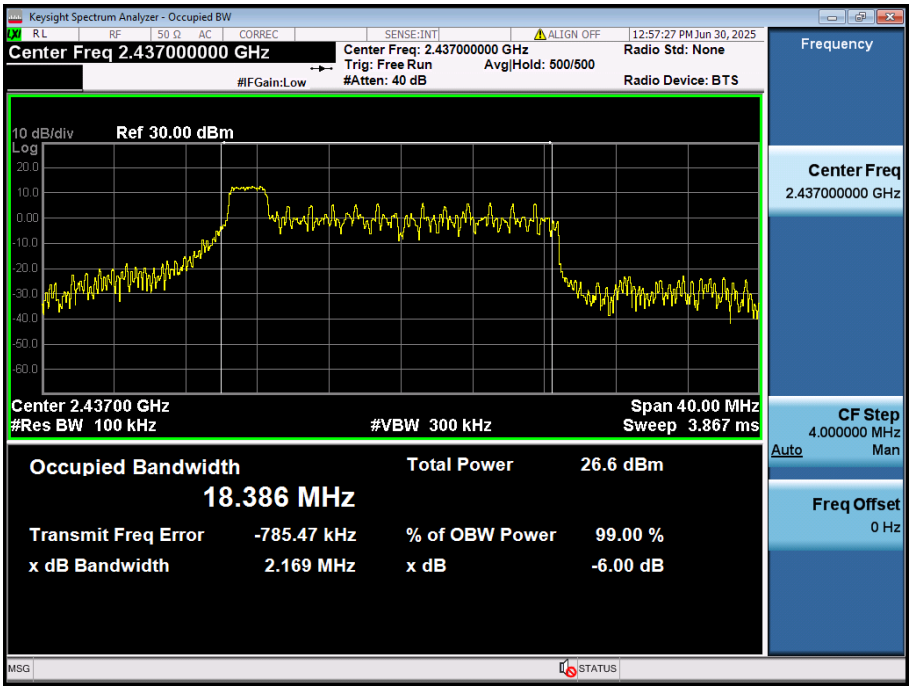
ANT	Tones	RU Index	Test Results(MHz)		
			2 422	2 437	2462
ANT 1	26	0	17.12	17.10	17.11
		8	**2.13**	2.17	2.17
		17	2.17	**2.15**	**2.17**
	484	65	36.37	36.21	35.59
ANT 2	26	0	17.10	17.07	14.58
		8	**2.17**	2.16	**2.17**
		17	2.18	**2.15**	2.19
	484	65	36.50	37.30	37.63

Note 1: The worst-case plots(Minimum 6dB Bandwidth) were attached to the next page.

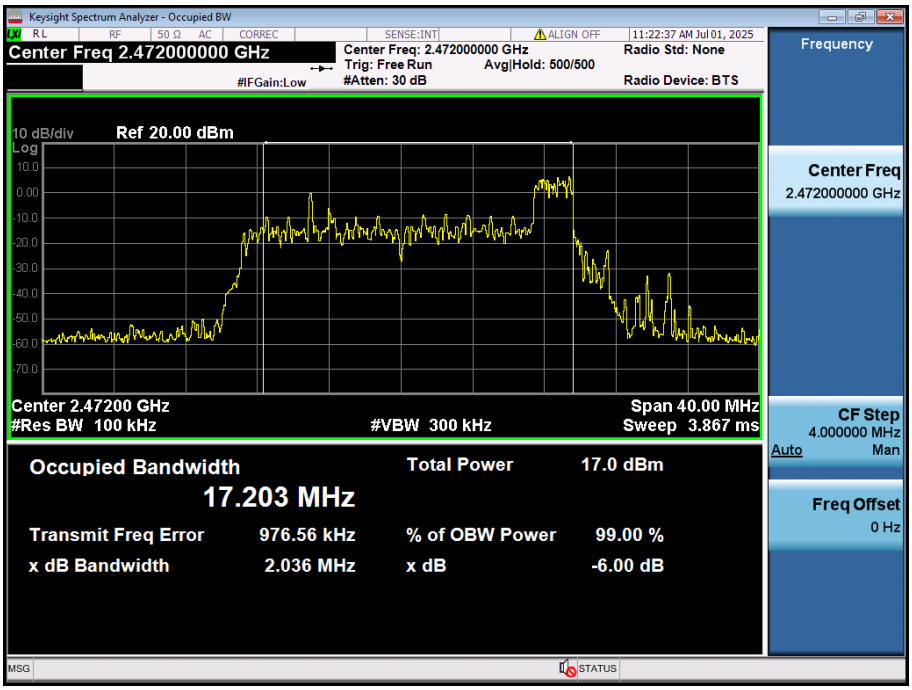
6 dB Bandwidth TM 1 & ANT 1 & 26 Tone & 8 RU & 2 412



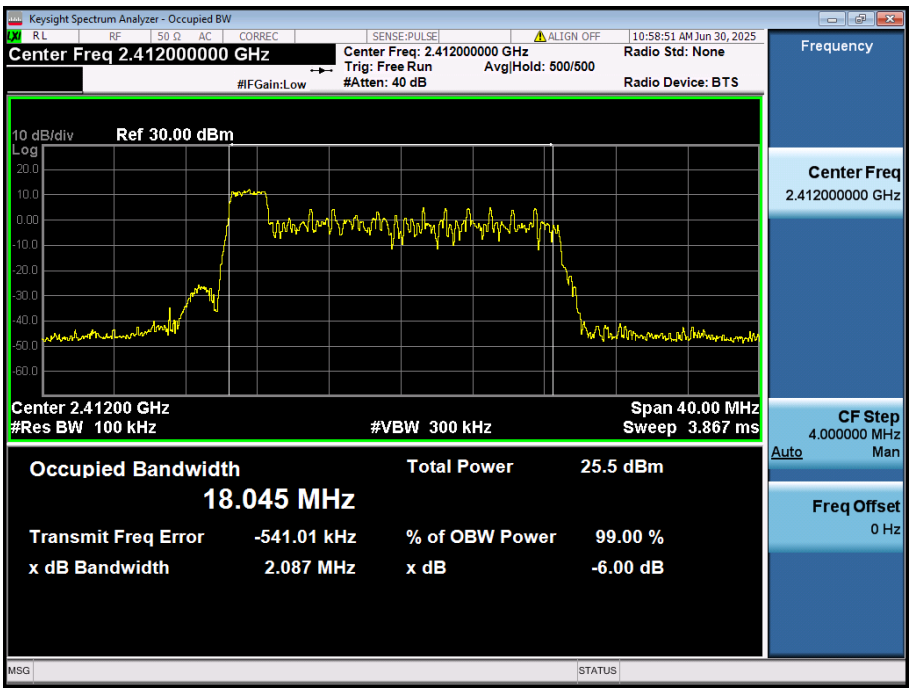
6 dB Bandwidth TM 1 & ANT 1 & 26 Tone & 0 RU & 2 437



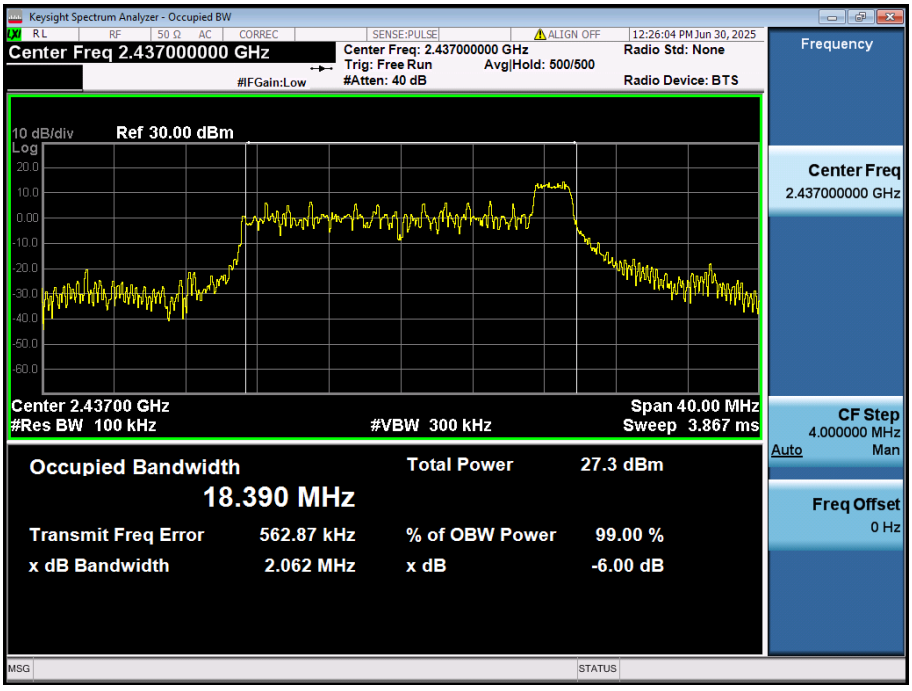
6 dB Bandwidth TM 1 & ANT 1 & 26 Tone & 8 RU & 2 472



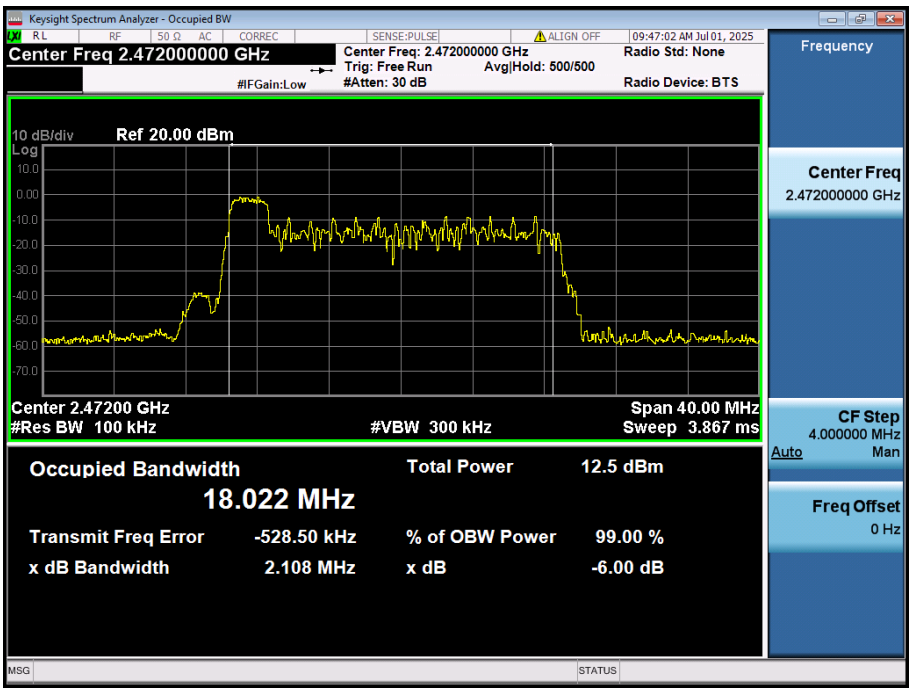
6 dB Bandwidth TM 1 & ANT 2 & 26 Tone & 0 RU & 2 412



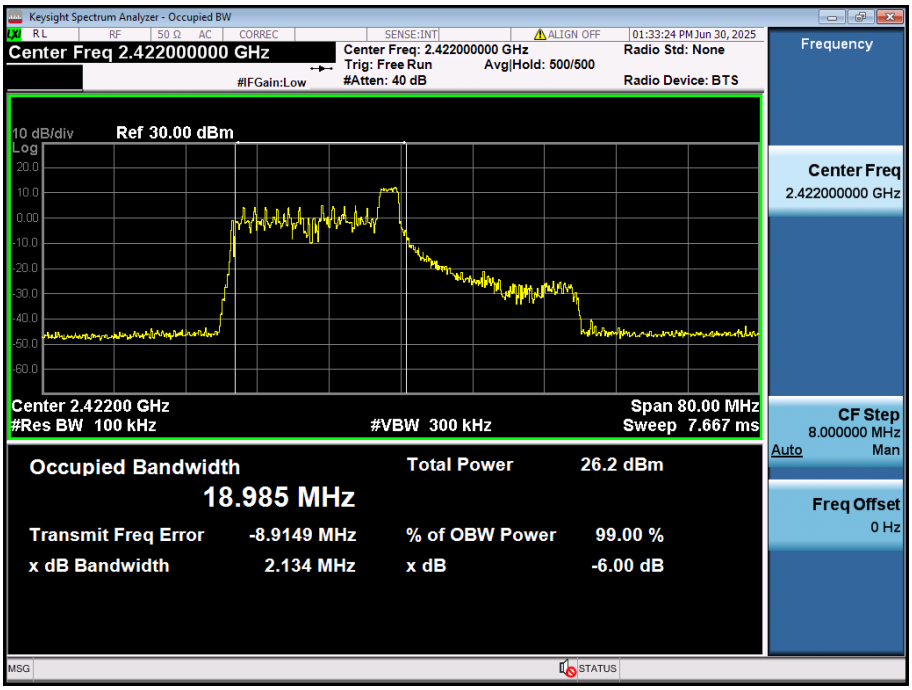
6 dB Bandwidth TM 1 & ANT 2 & 26 Tone & 8 RU & 2 437



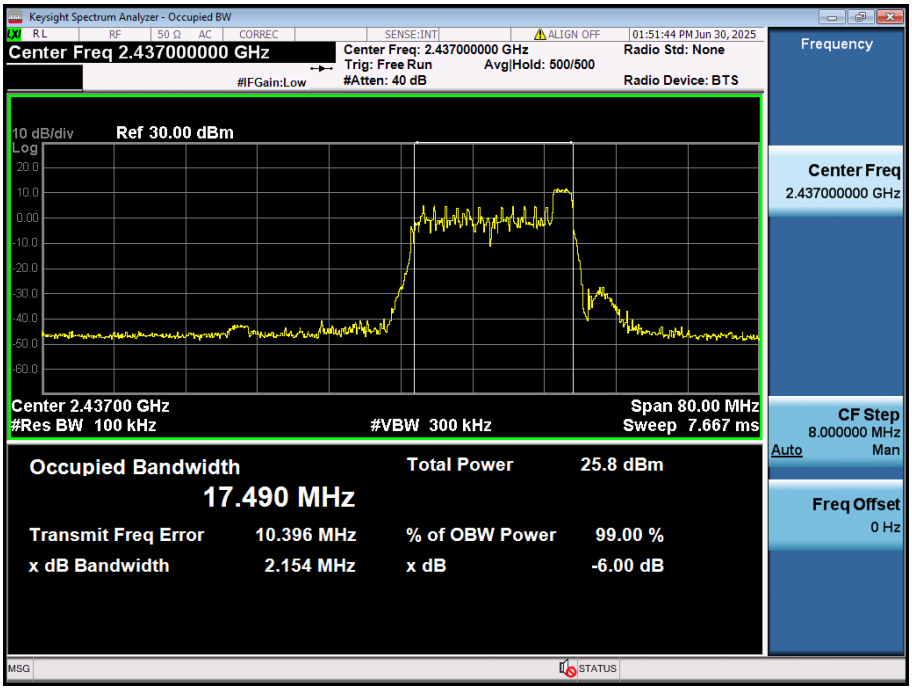
6 dB Bandwidth TM 1 & ANT 2 & 26 Tone & 0 RU & 2 472



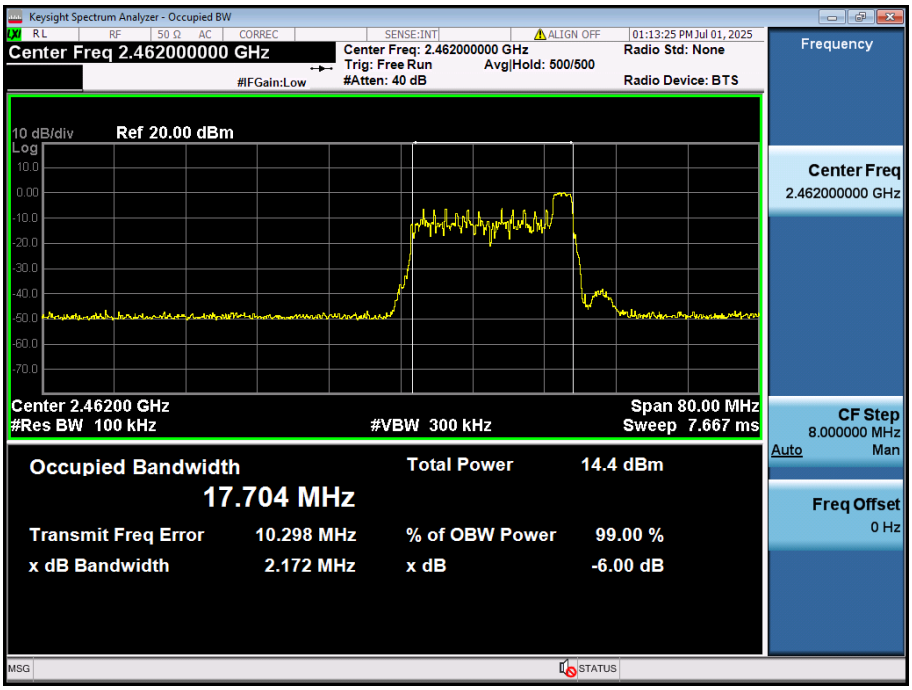
6 dB Bandwidth TM 2 & ANT 1 & 26 Tone & 8 RU & 2 422



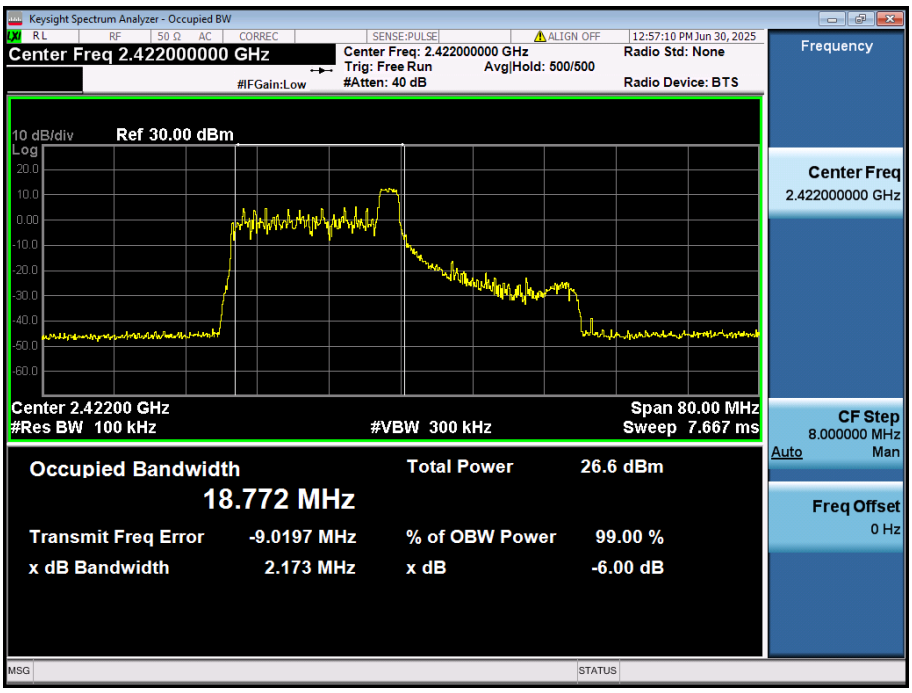
6 dB Bandwidth TM 2 & ANT 1 & 26 Tone & 17 RU & 2 437



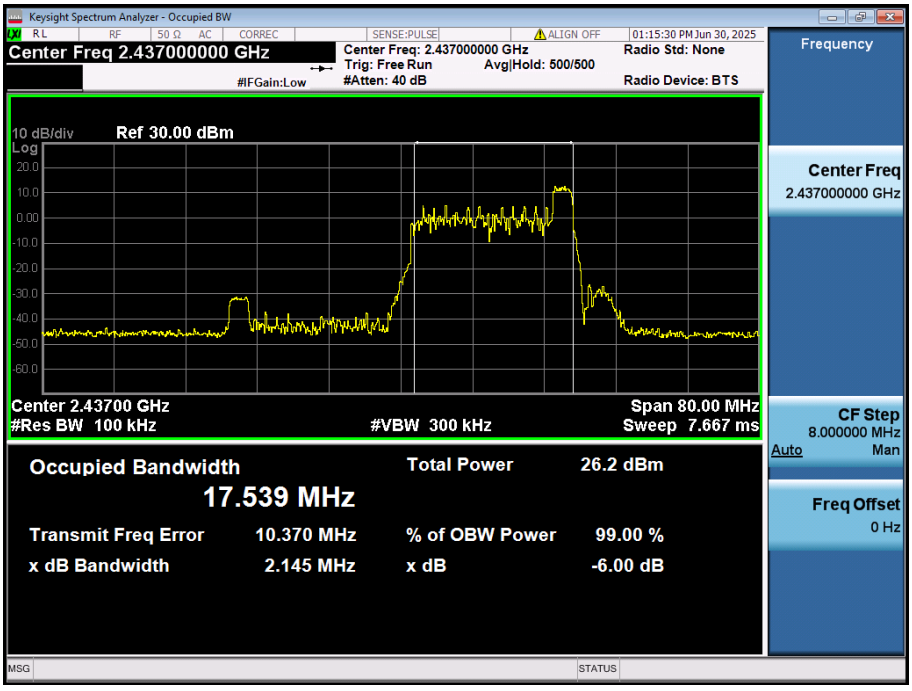
6 dB Bandwidth TM 2 & ANT 1 & 26 Tone & 17 RU & 2 462



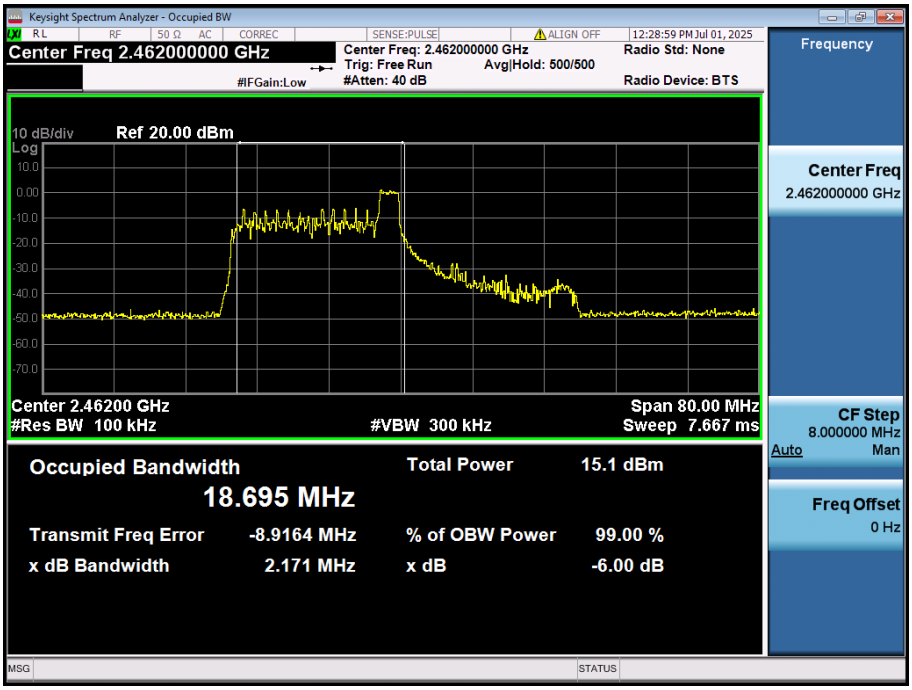
6 dB Bandwidth TM 2 & ANT 2 & 26 Tone & 8 RU & 2 422



6 dB Bandwidth TM 2 & ANT 2 & 26 Tone & 17 RU & 2 437



6 dB Bandwidth TM 2 & ANT 2 & 26 Tone & 17 RU & 2 462



5.3. Power Spectral Density

▣ Test requirements and limit, Part 15.247(e) & RSS-247[6.3.1]

The peak power density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating in transmission mode at the appropriate frequencies.

The power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

5.3.1. Test Setup

Refer to the APPENDIX I.

5.3.2. Test Procedures

- **KDB558074 D01v05r02 - Section 8.4**
- **ANSI C63.10-2020 – Section 11.10.2**

Method PKPSD (peak PSD)

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span >1.5 times the DTS bandwidth.
3. Set the RBW to **3 kHz ≤ RBW ≤ 100 kHz**.
4. Set the VBW ≥ **3 x RBW.**
5. Detector = **peak.**
6. Sweep time = No faster than coupled (auto) time.
7. Trace mode = **max hold.**
8. Allow trace to fully stabilize.
9. Use the **peak marker function** to determine the maximum amplitude level within the RBW.
10. If measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat.

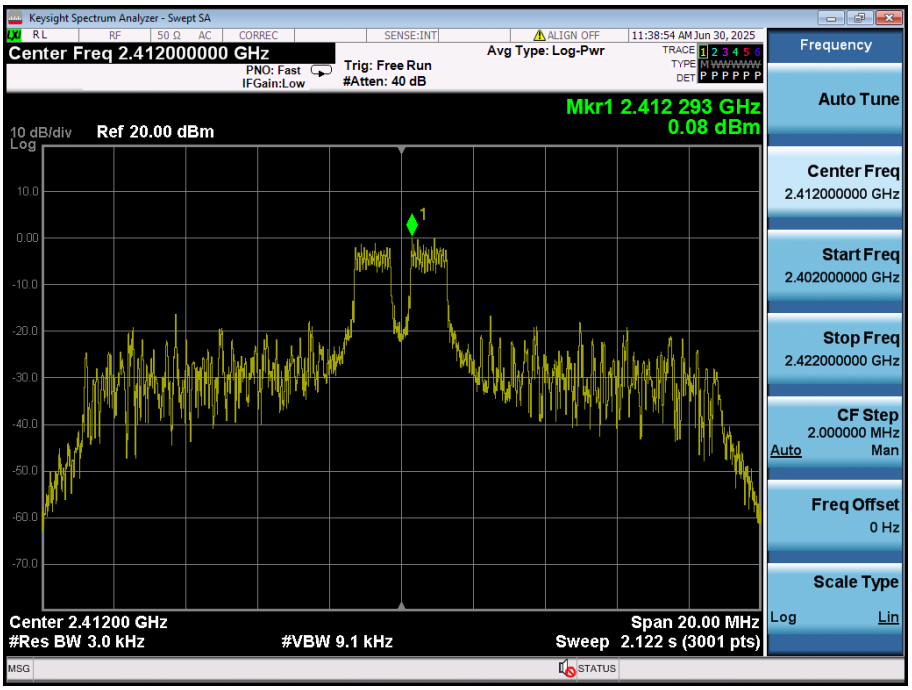
5.3.3. Test Results

ANT	Tones	RU Index	RBW	Power Spectral Density (dBm) for 802.11ax(HE20)			
				2 412 MHz	2 437 MHz	2 472 MHz	Limit (dBm / 3 kHz)
ANT 1	26	0	3 kHz	-0.06	1.62	-9.80	8.00
		4	3 kHz	**0.08**	**1.18**	-12.89	8.00
		8	3 kHz	-1.21	0.54	**-6.16**	8.00
	242	61	3 kHz	-9.75	-6.63	-16.66	8.00
ANT 2	26	0	3 kHz	-0.73	2.21	-12.15	8.00
		4	3 kHz	**0.68**	**3.27**	-13.17	8.00
		8	3 kHz	-0.38	2.83	**-13.28**	8.00
	242	61	3 kHz	-9.44	-6.46	-16.26	8.00
Sum (ANT 1+2)	26	0	3 kHz	2.63	4.94	-7.81	7.20
		4	3 kHz	**3.40**	**5.36**	-10.02	7.20
		8	3 kHz	2.24	4.84	**-5.39**	7.20
	242	61	3 kHz	-6.58	-3.53	-13.45	7.20

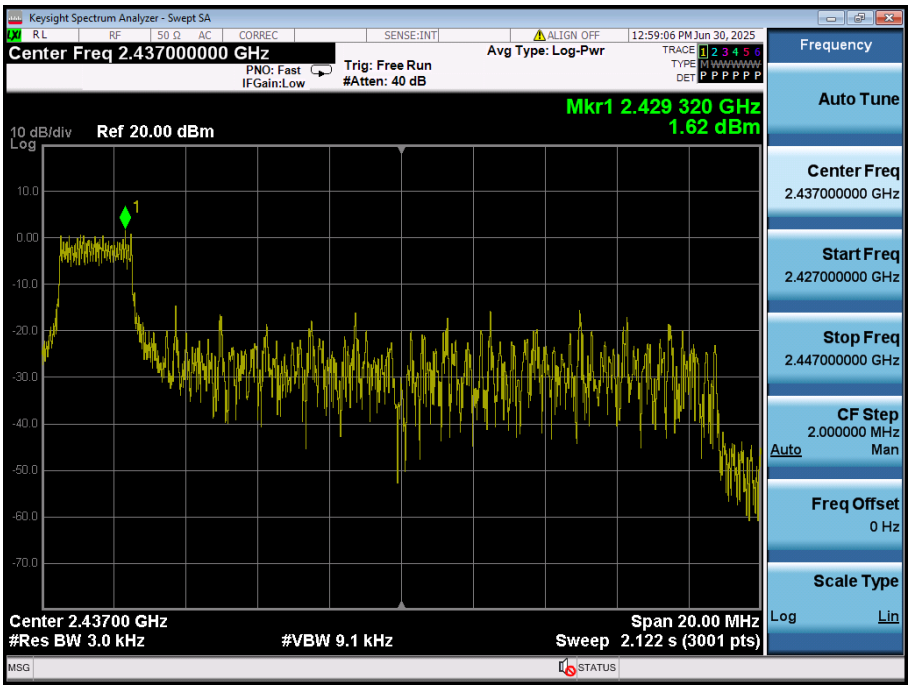
ANT	Tones	RU Index	RBW	Power Spectral Density (dBm) for 802.11ax(HE40)			
				2 422 MHz	2 437 MHz	2 462 MHz	Limit (dBm / 3 kHz)
ANT 1	26	0	3 kHz	-1.47	-2.14	-12.91	8.00
		8	3 kHz	**0.93**	**0.67**	**-9.72**	8.00
		17	3 kHz	-0.21	0.11	-11.66	8.00
	484	65	3 kHz	-13.49	-10.03	-19.53	8.00
ANT 2	26	0	3 kHz	-2.27	-1.87	-12.54	8.00
		8	3 kHz	**1.17**	**0.30**	**-10.94**	8.00
		17	3 kHz	0.78	-0.31	-11.83	8.00
	484	65	3 kHz	-12.69	-8.40	-19.16	8.00
Sum (ANT 1+2)	26	0	3 kHz	1.16	1.01	-9.71	7.20
		8	3 kHz	**4.06**	**3.50**	**-7.28**	7.20
		17	3 kHz	3.32	2.92	-8.73	7.20
	484	65	3 kHz	-10.06	-6.13	-16.33	7.20

Note: The amount by which it exceeds 6 dBi was reduced from the power spectral density limit.

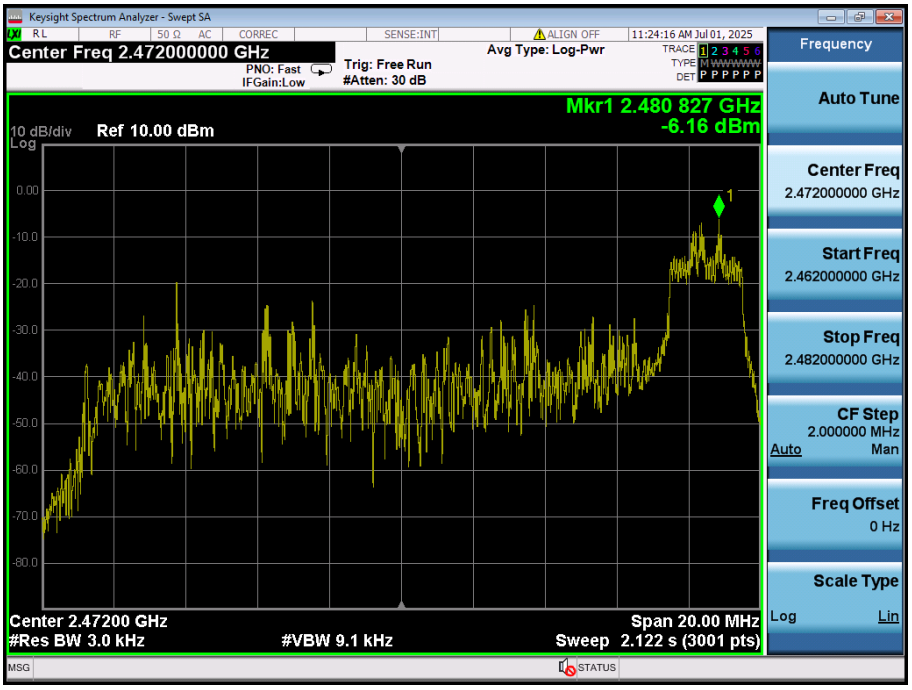
Power Spectral Density TM 1 & ANT 1 & 26 Tone & 4 RU & 2 412



Power Spectral Density TM 1 & ANT 1 & 26 Tone & 0 RU & 2 437

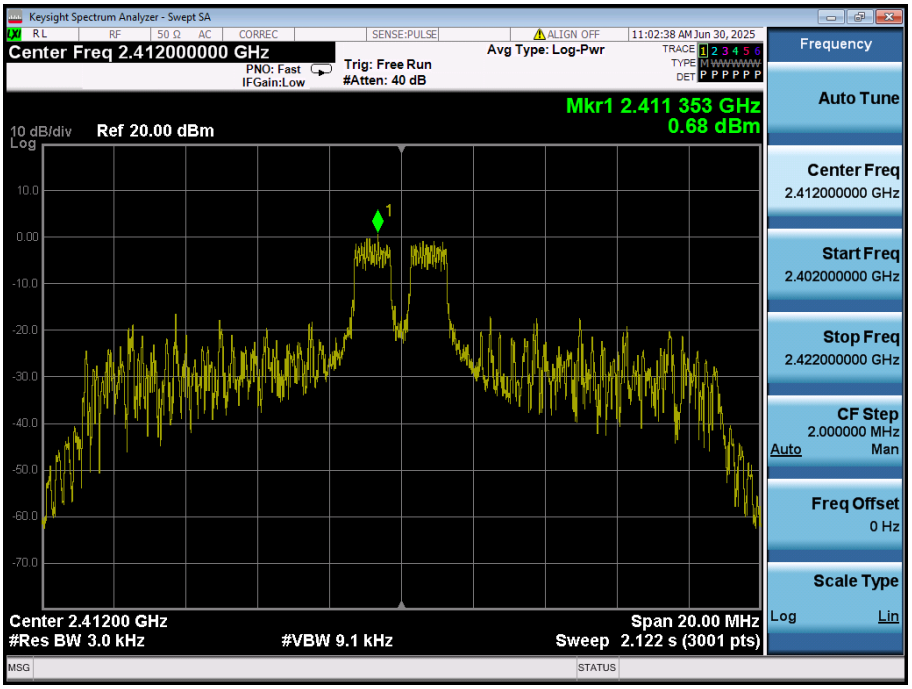


Power Spectral Density TM 1 & ANT 1 & 26 Tone & 8 RU & 2 472



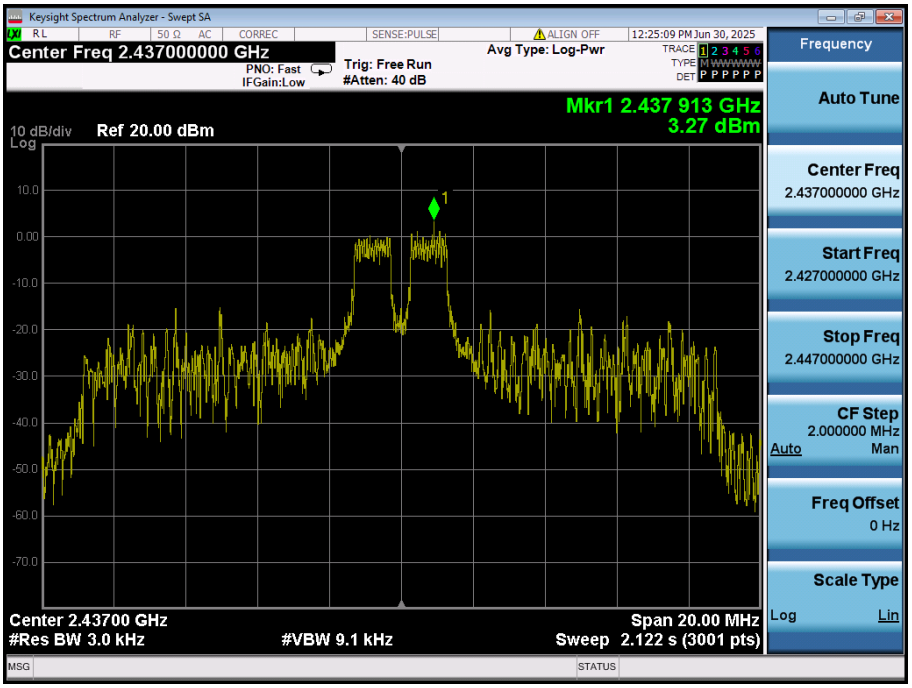
Power Spectral Density

TM 1 & ANT 2 & 26 Tone & 4 RU & 2 412

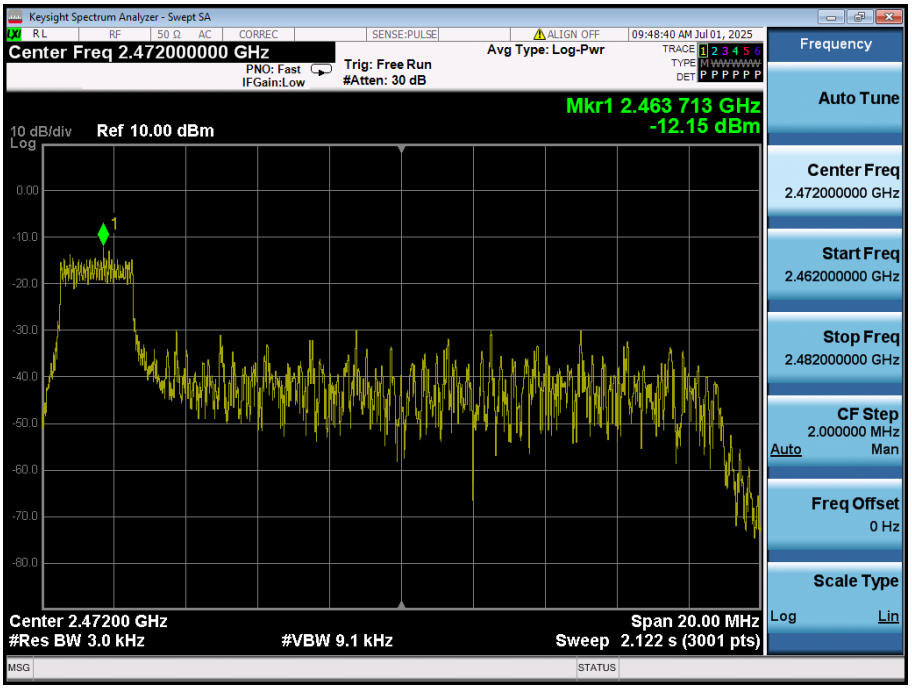


Power Spectral Density

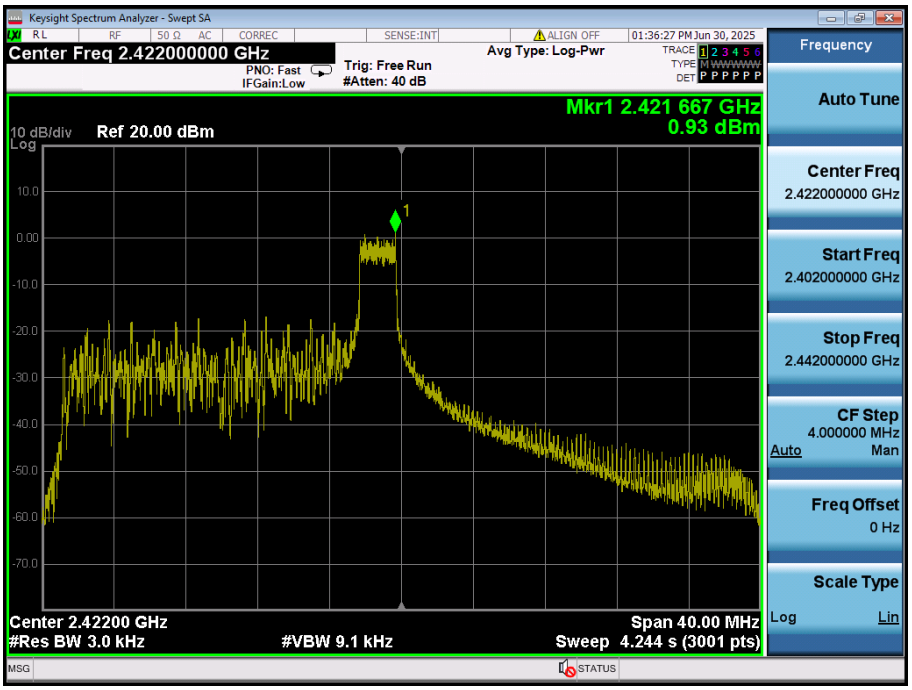
TM 1 & ANT 2 & 26 Tone & 4 RU & 2 437



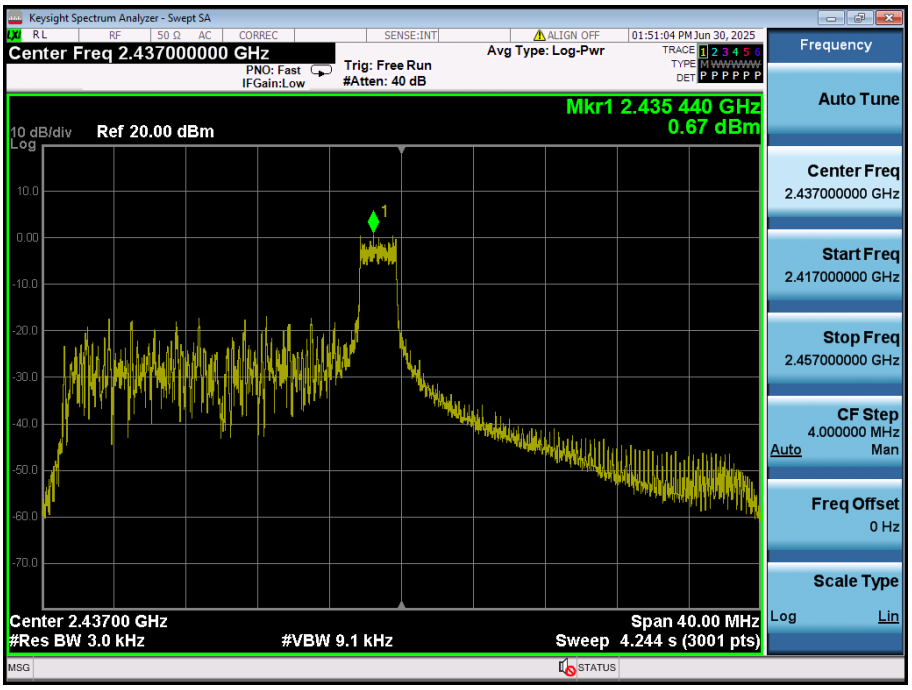
Power Spectral Density TM 1 & ANT 2 & 26 Tone & 0 RU & 2 472



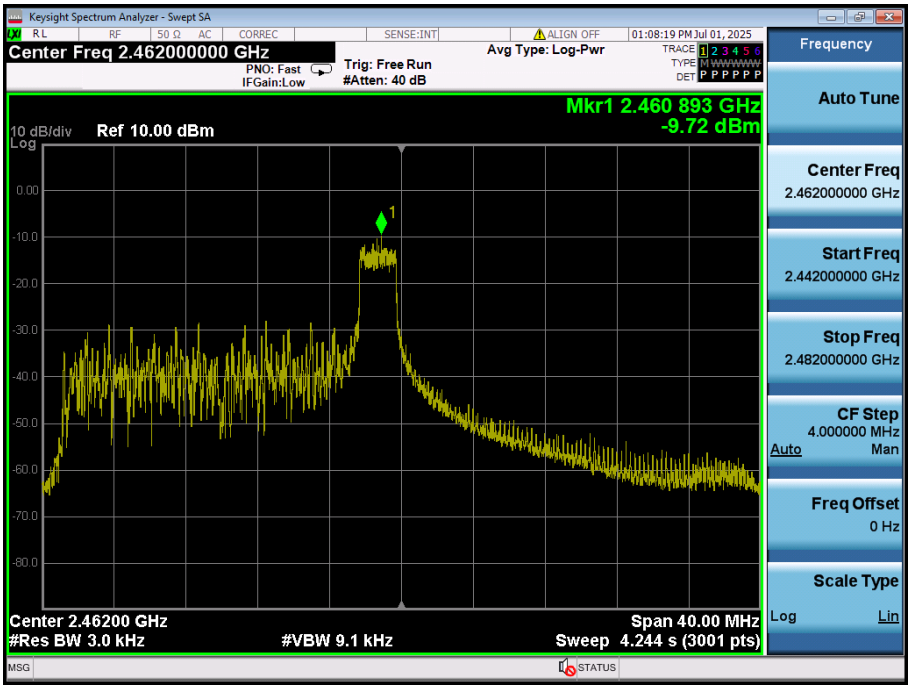
Power Spectral Density TM 2 & ANT 1 & 26 Tone & 8 RU & 2 422



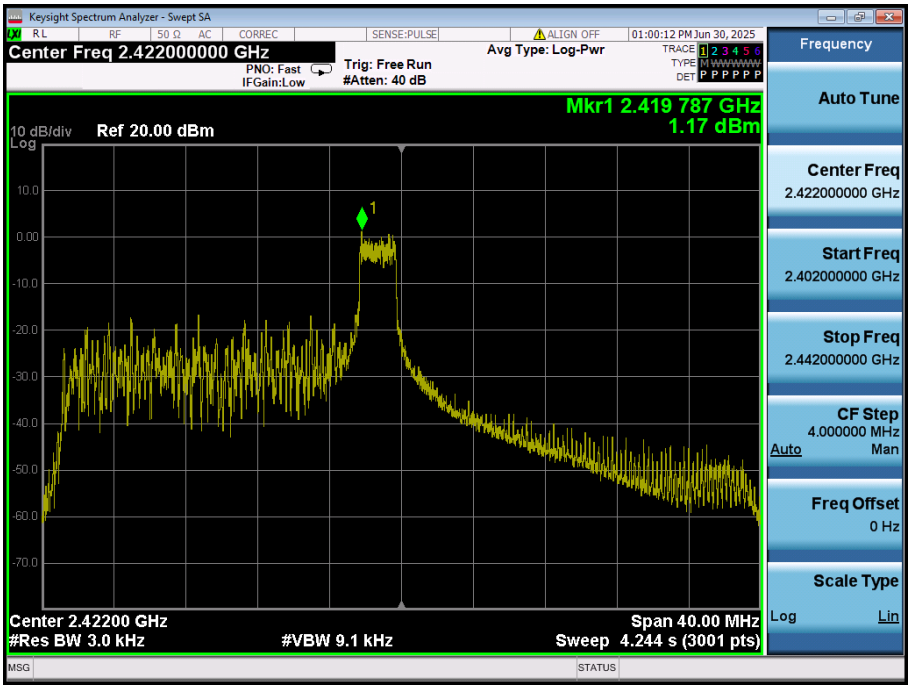
Power Spectral Density TM 2 & ANT 1 & 26 Tone & 8 RU & 2 437



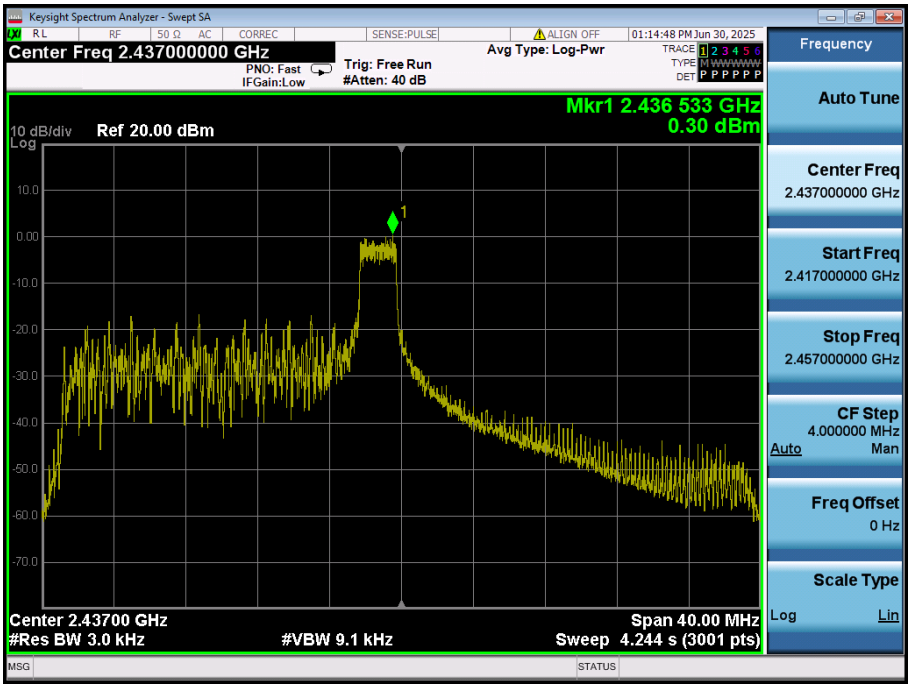
Power Spectral Density TM 2 & ANT 1 & 26 Tone & 8 RU & 2 462



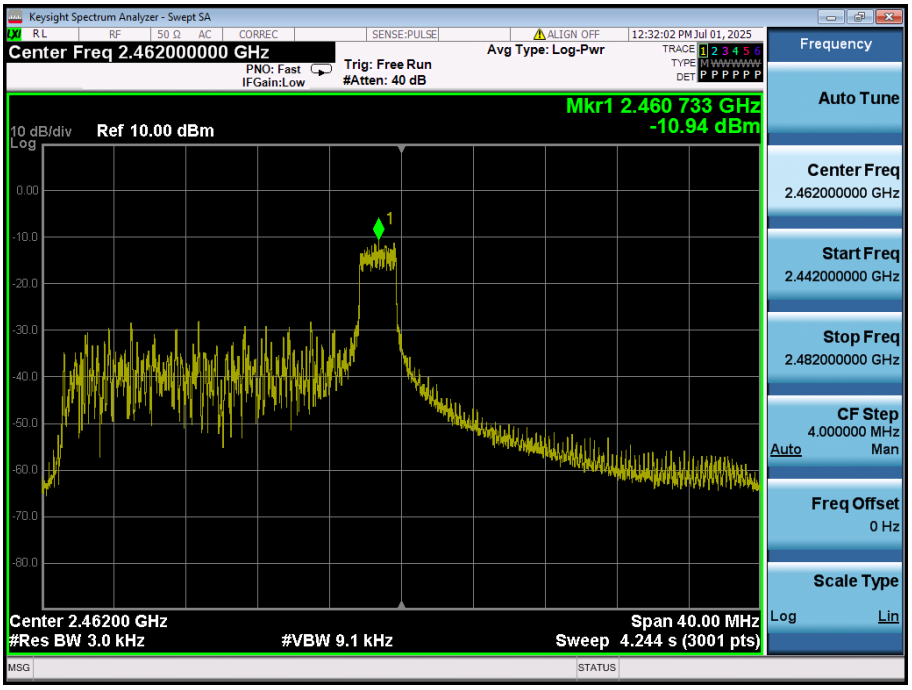
Power Spectral Density TM 2 & ANT 2 & 26 Tone & 8 RU & 2 422



Power Spectral Density TM 2 & ANT 2 & 26 Tone & 8 RU & 2 437



Power Spectral Density TM 2 & ANT 2 & 26 Tone & 8 RU & 2 462



5.4. Unwanted Emissions (Conducted)

▣ **Test requirements and limit, Part 15.247(d) & RSS-247[6.6]**

In any 100 kHz bandwidth outside of the authorized frequency band, the power shall be attenuated according to the following conditions :

If the peak output power procedure is used to measure the fundamental emission power to demonstrate compliance to 15.247(b)(3) requirements, then the peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak PSD level.

If the average output power procedure is used to measure the fundamental emission power to demonstrate compliance to 15.247(b)(3) requirements, then the power in any 100 kHz outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum measured inband average PSD level.

In either case, attenuation to levels below the general emission limits specified in §15.209(a) is not required.

5.4.1. Test Setup

Refer to the APPENDIX I including path loss

5.4.2. Test Procedures

- **KDB558074 D01v05r02 - Section 8.5**
- **ANSI C63.10-2020 – Section 11.11**

Reference level measurement

1. Set instrument center frequency to DTS channel center frequency.
2. Set the span to ≥ 1.5 times the DTS bandwidth.
3. Set the RBW = 100 kHz.
4. Set the VBW ≥ 3 x RBW.
5. Detector = peak.
6. Sweep time = No faster than coupled (auto) time.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum PSD level
   LIMIT LINE = 20 dB below of the reference level.

Emission level measurement

1. Set the center frequency and span to encompass frequency range to be measured.
2. Set the RBW = 100 kHz.(Actual 1 MHz , See below note)
3. Set the VBW ≥ 3 x RBW.(Actual 3 MHz, See below note)
4. Detector = peak.
5. Ensure that the number of measurement points ≥ span / RBW
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow the trace to stabilize (this may take some time, depending on the extent of the span).
9. Use the peak marker function to determine the maximum amplitude level.

Note: The unwanted emission(conducted) was tested with below settings.

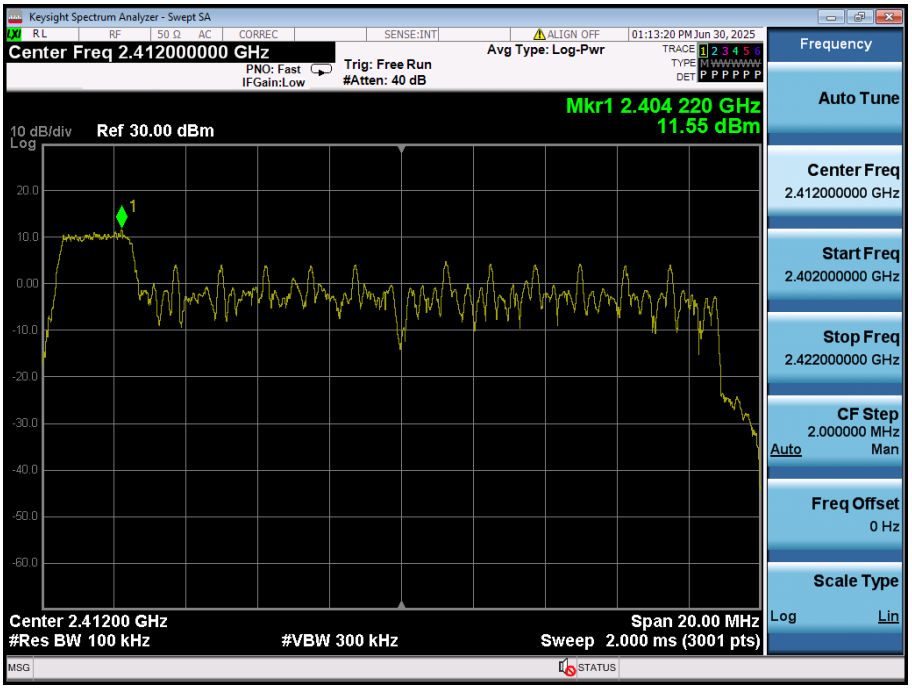
Frequency range	RBW	VBW	Detector	Trace	Sweep Point
9 kHz ~ 30 MHz	100 kHz	300 kHz	Peak	Max Hold	40 001
30 MHz ~ 10 GHz	1 MHz	3 MHz			
10 GHz ~ 25 GHz	1 MHz	3 MHz			

If the emission level with above setting was close to the limit (ie, less than 3 dB margin) then zoom scan is required using RBW = 100 kHz, VBW = 300 kHz, SPAN = 100 MHz and BINS = 2 001 to get accurate emission level within 100 kHz BW.

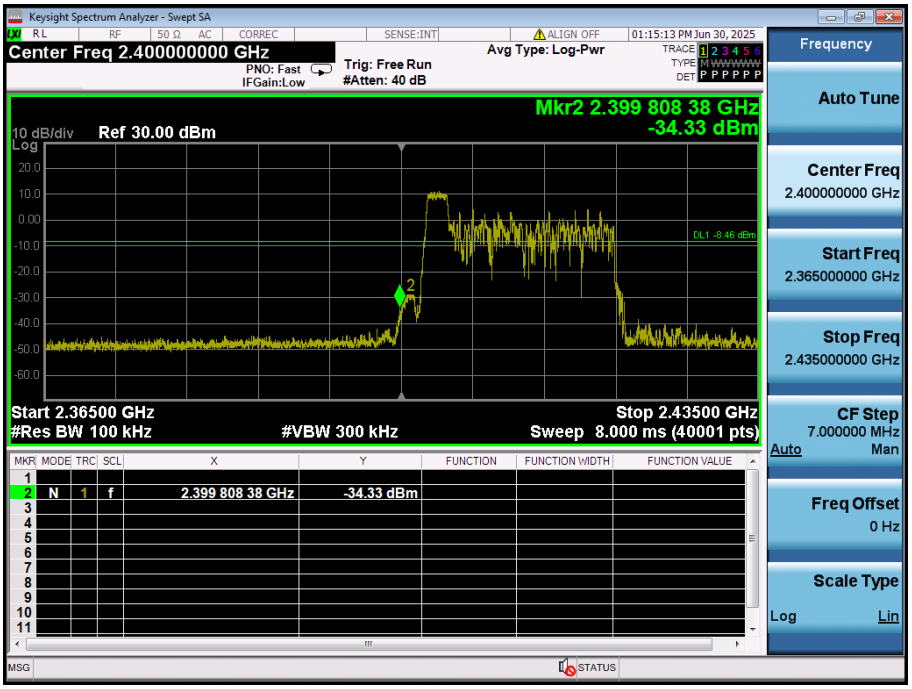
5.4.3. Test Results

TM 1 & ANT 1 & 26 Tone & 0 RU & 2 412

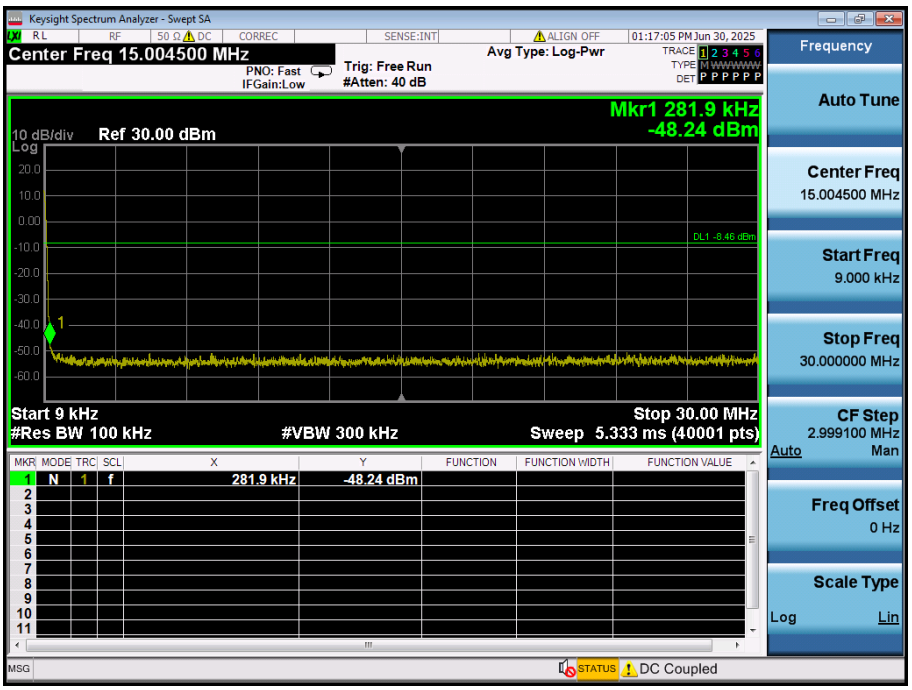
Reference

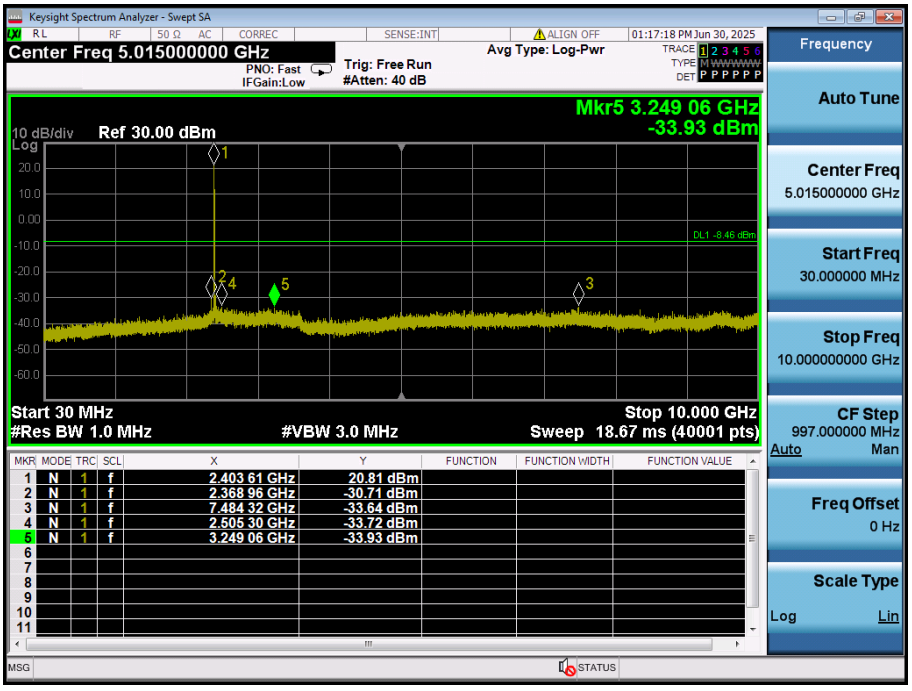


Low Band-edge

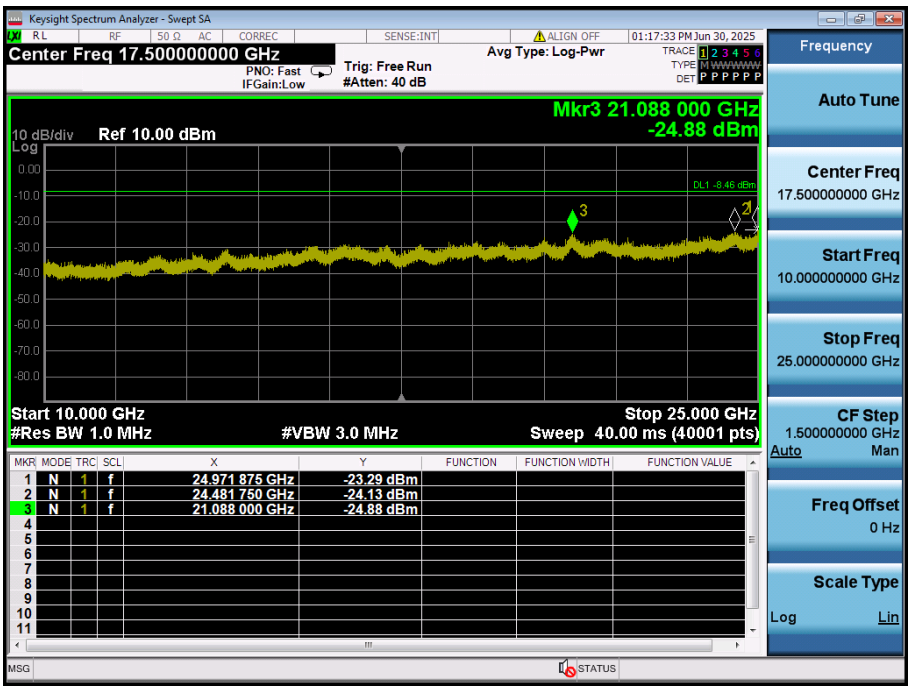


Conducted Spurious Emissions



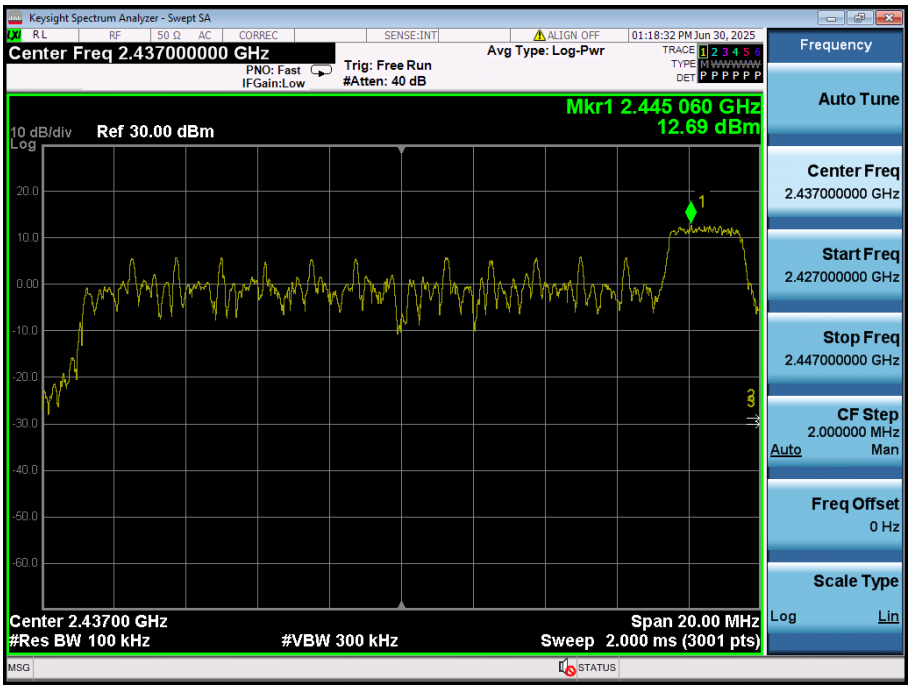


Conducted Spurious Emissions



TM 1 & ANT 1 & 26 Tone & 8 RU & 2 437

Reference



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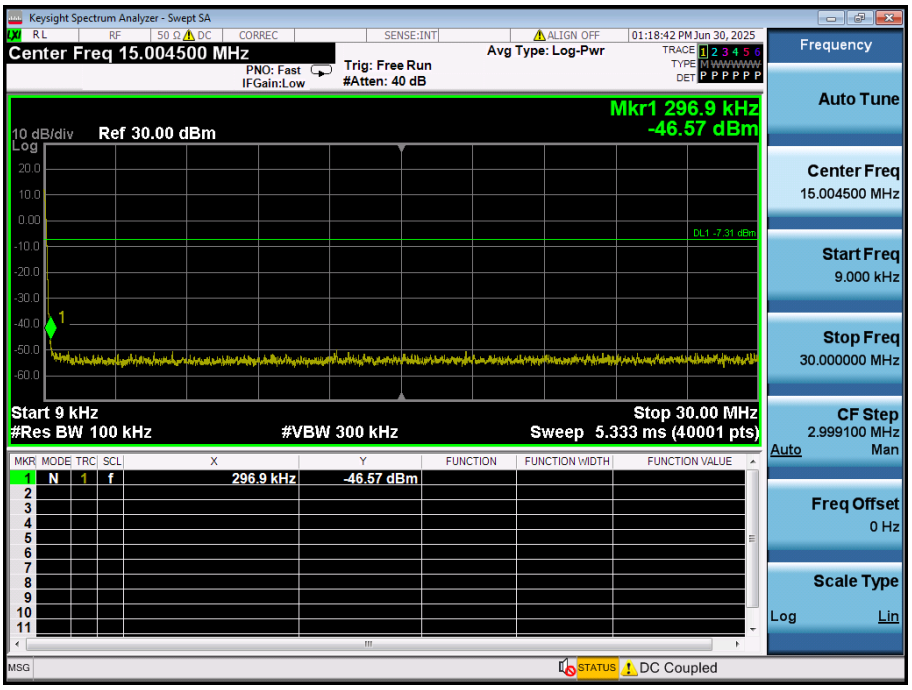

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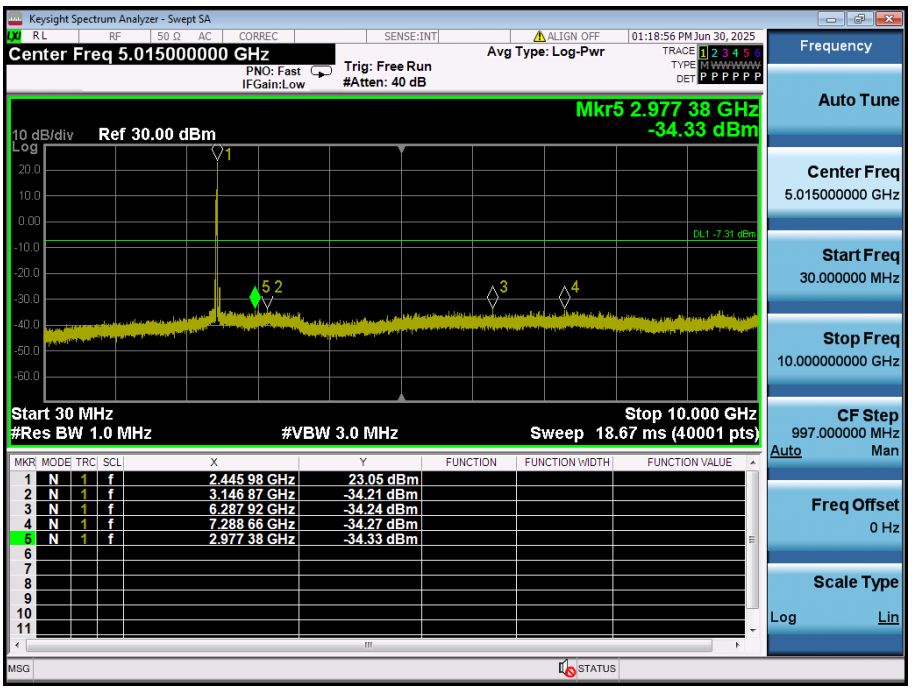
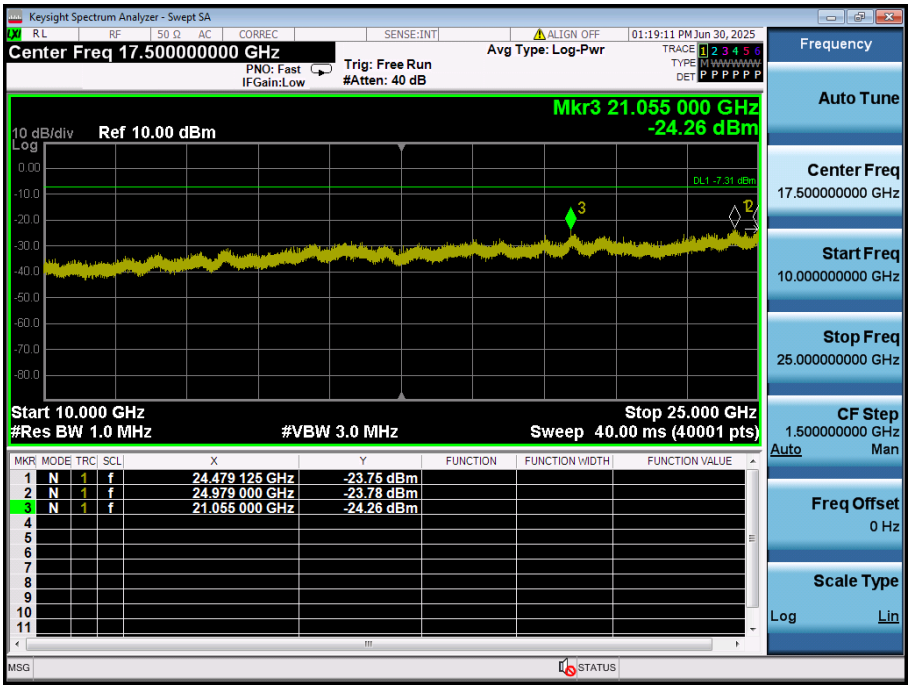
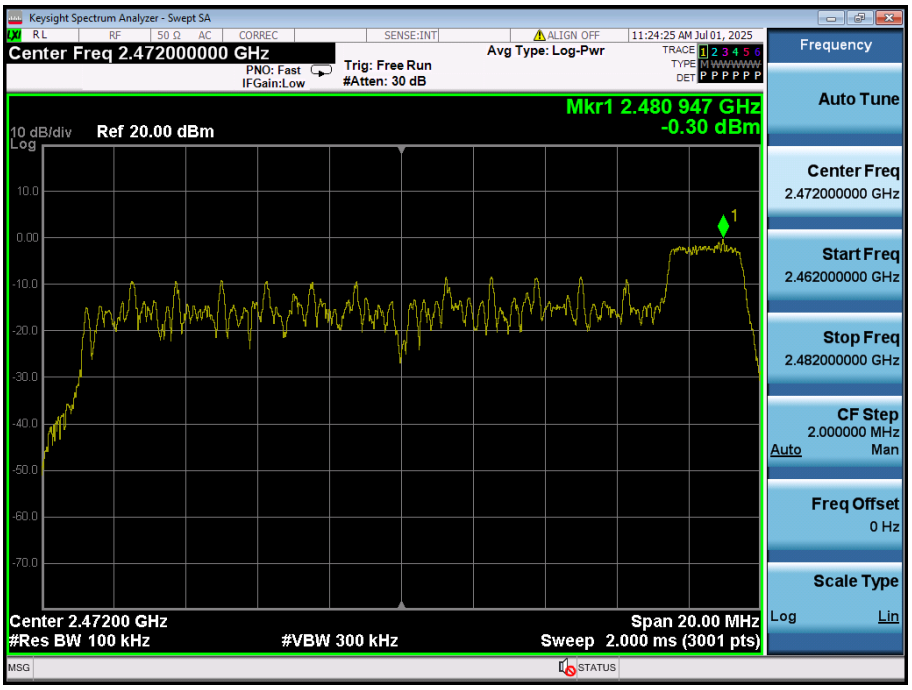


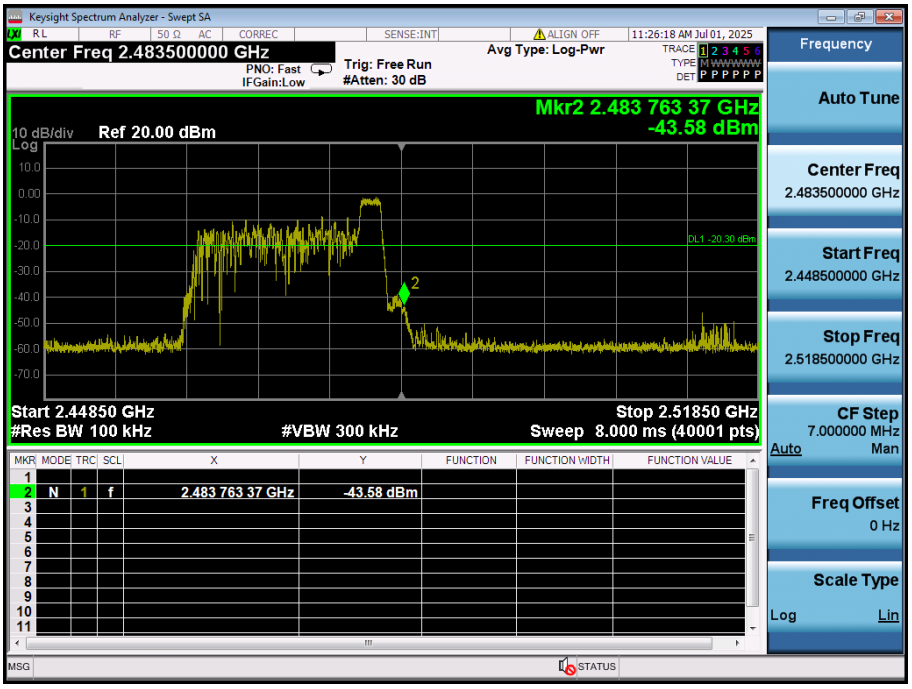


TM 1 & ANT 1 & 26 Tone & 8 RU & 2 472

Reference



High Band-edge



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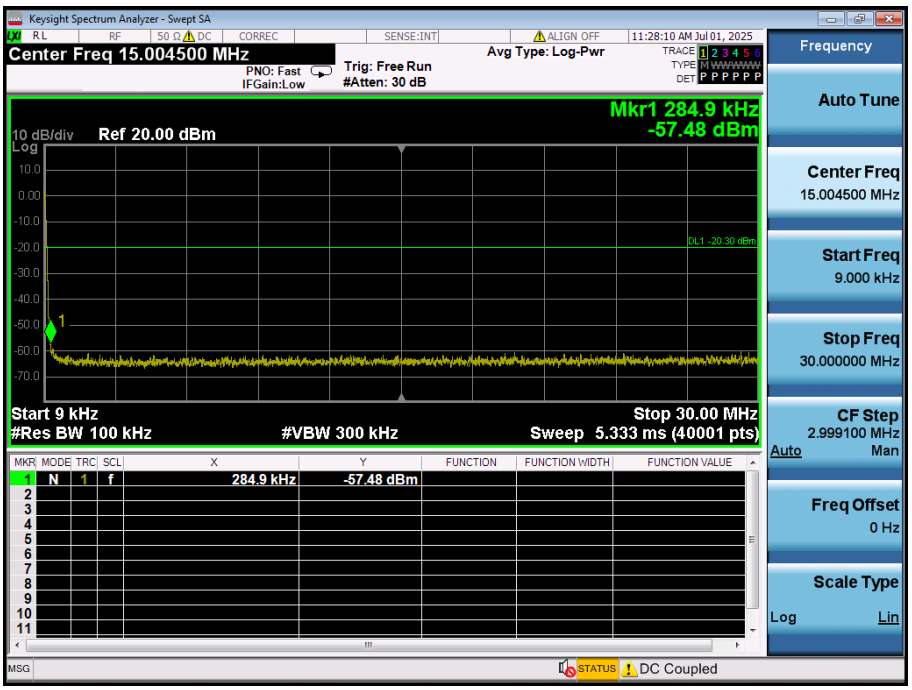

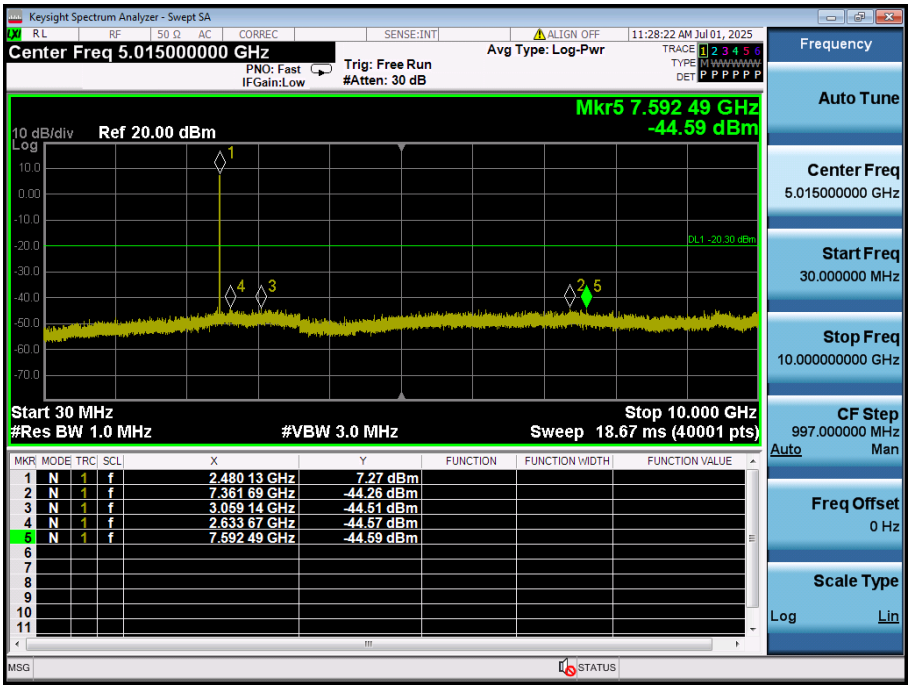

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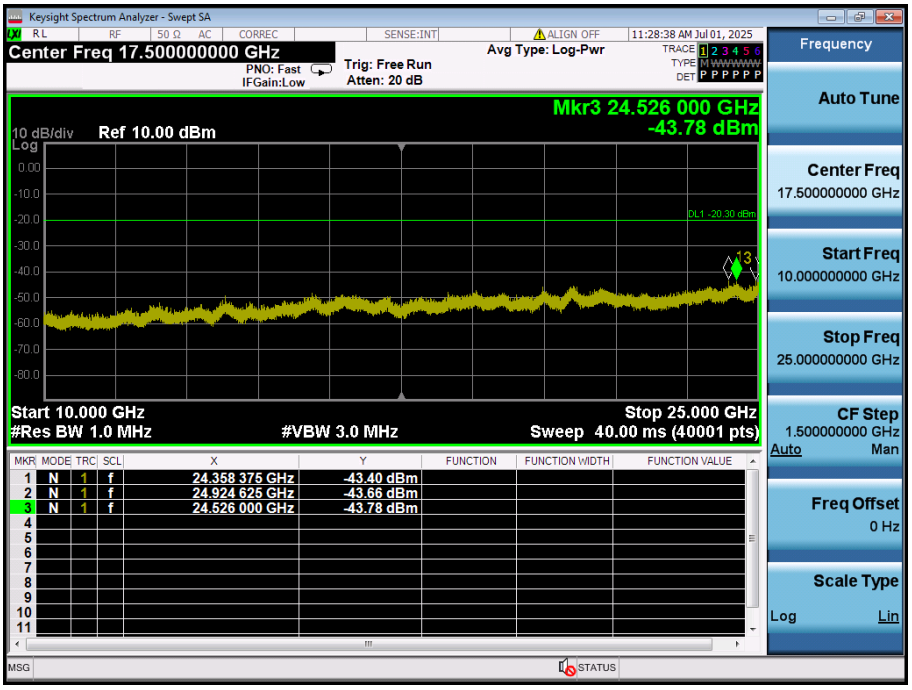
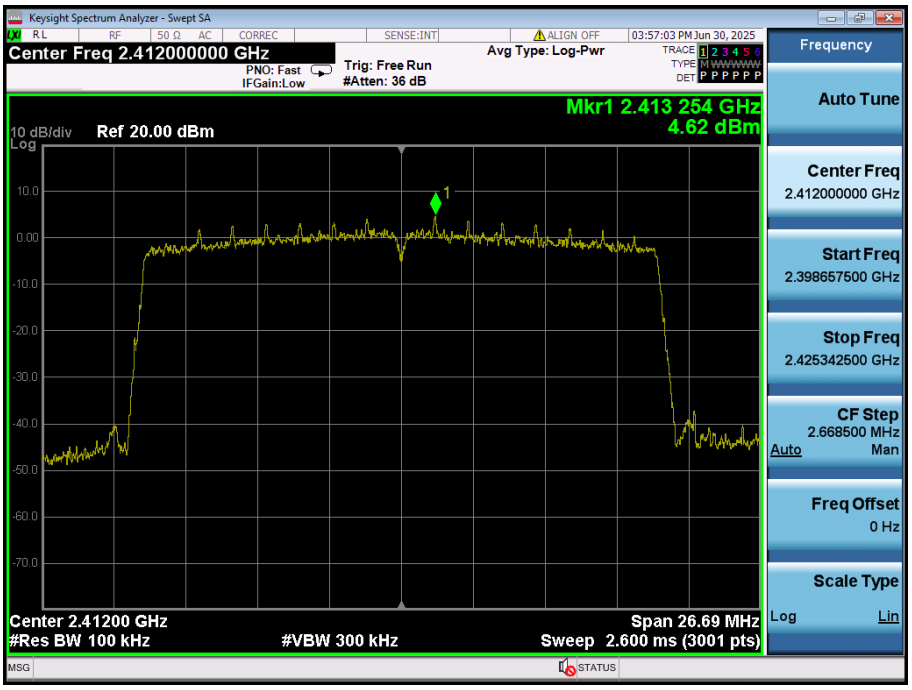
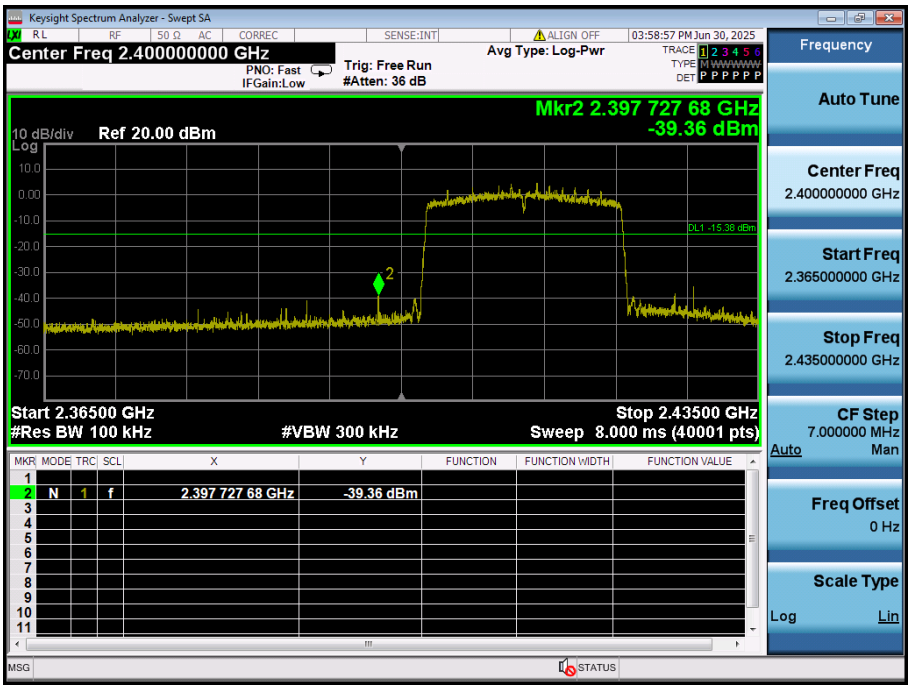


TM 1 & ANT 1 & 242 Tone & 61 RU & 2 412

Reference



Low Band-edge



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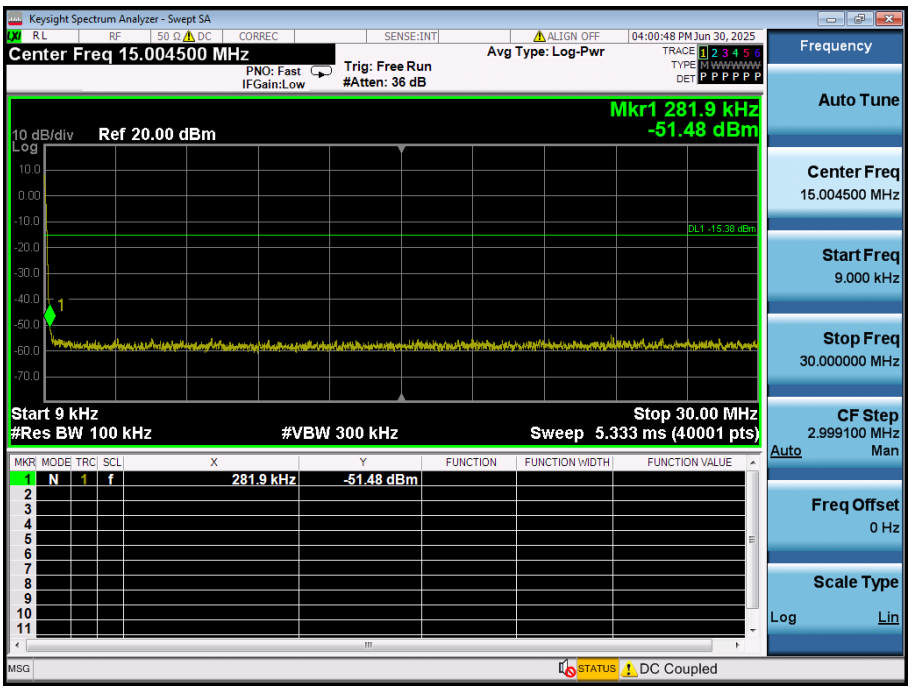

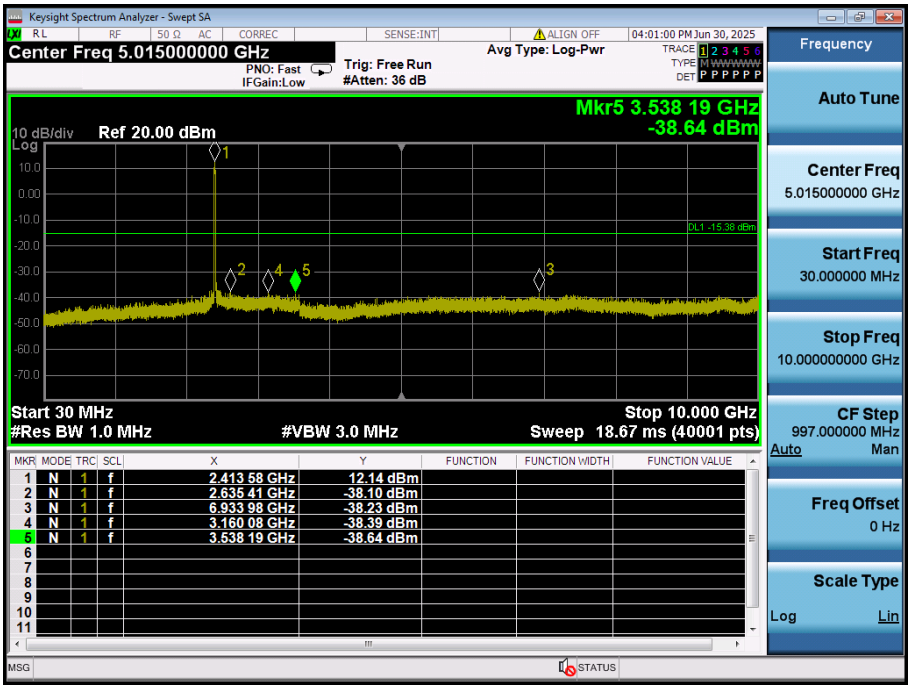

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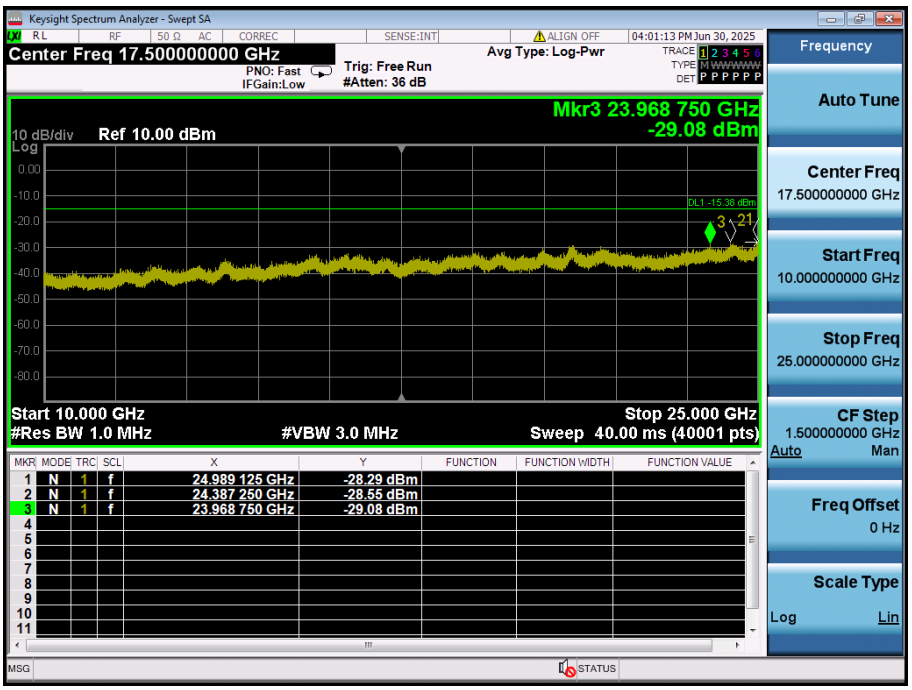
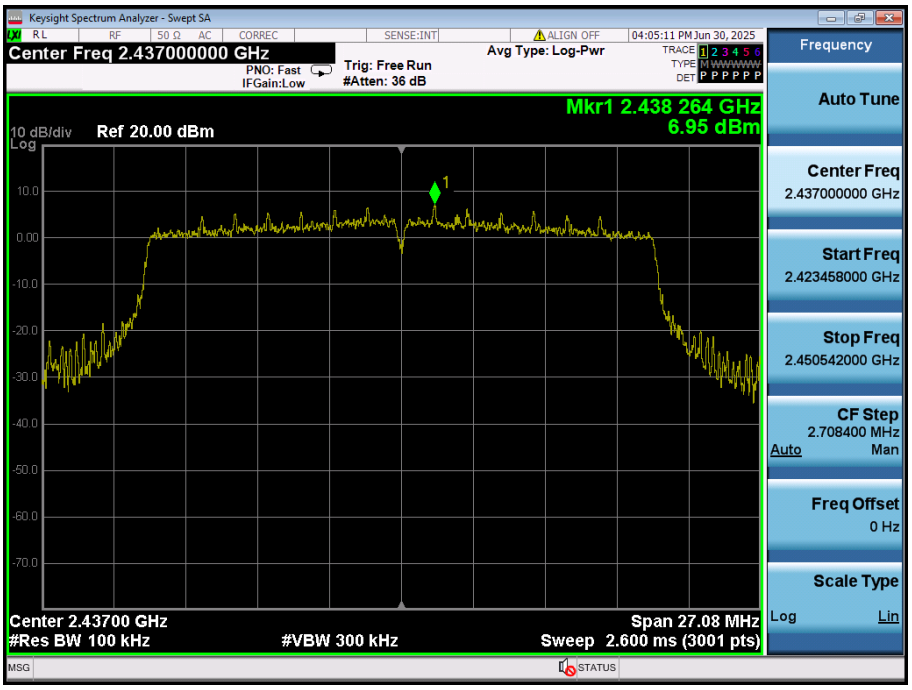


TM 1 & ANT 1 & 242 Tone & 61 RU & 2 437

Reference



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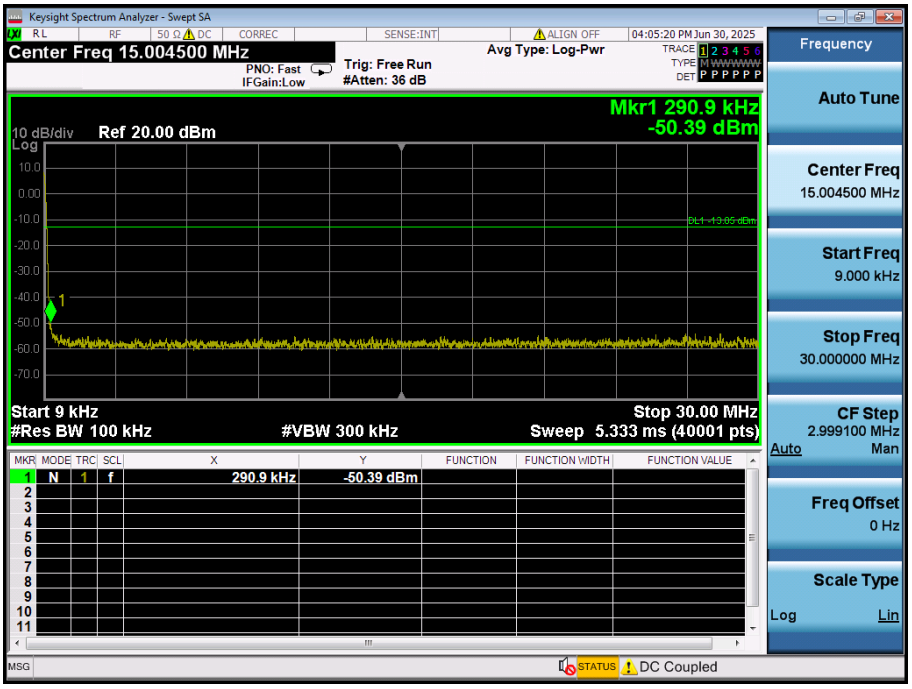

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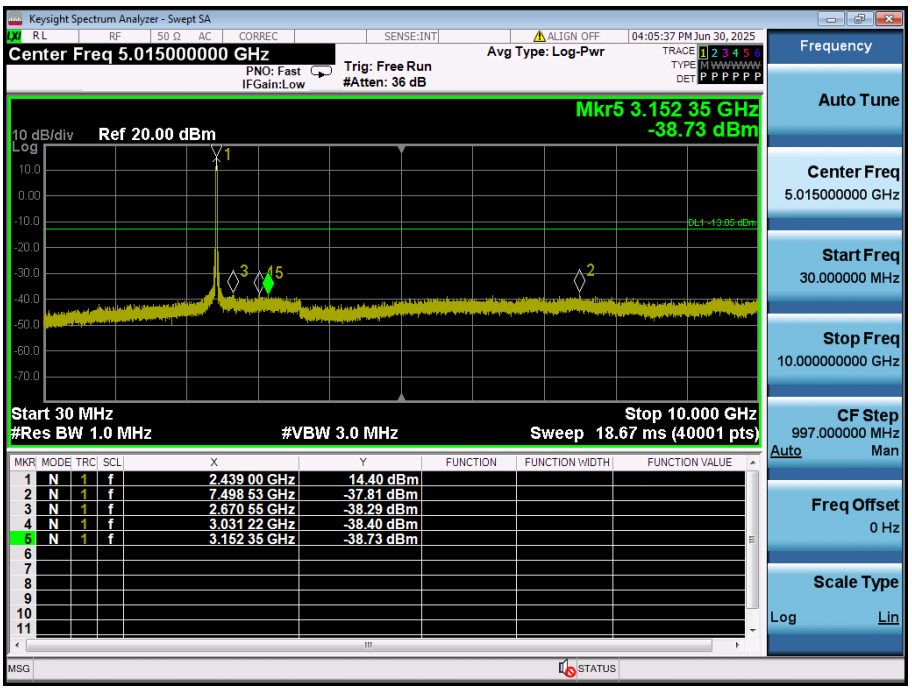

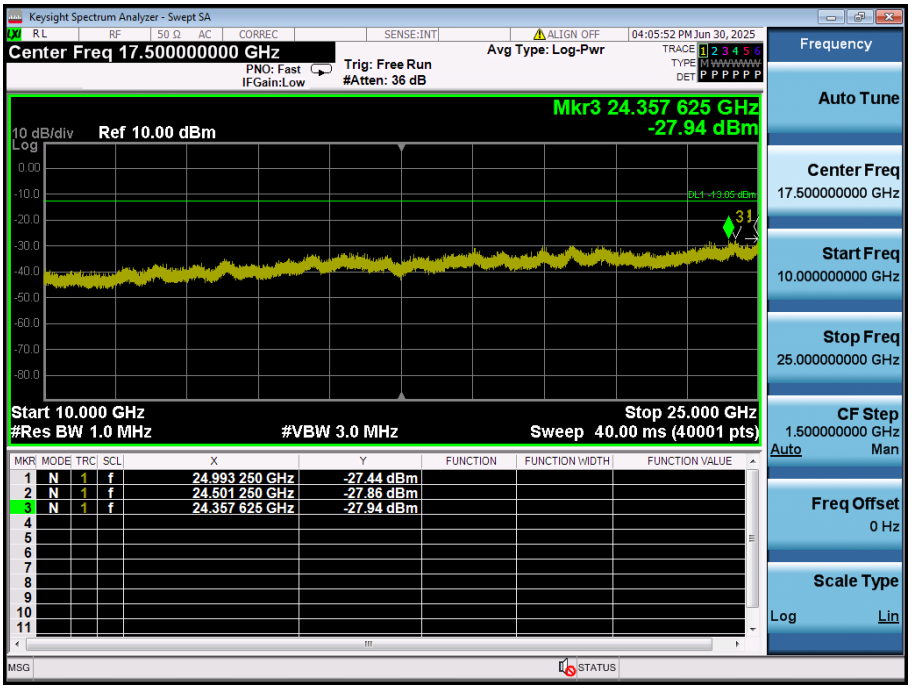

TM 1 & ANT 1 & 242 Tone & 61 RU & 2 472

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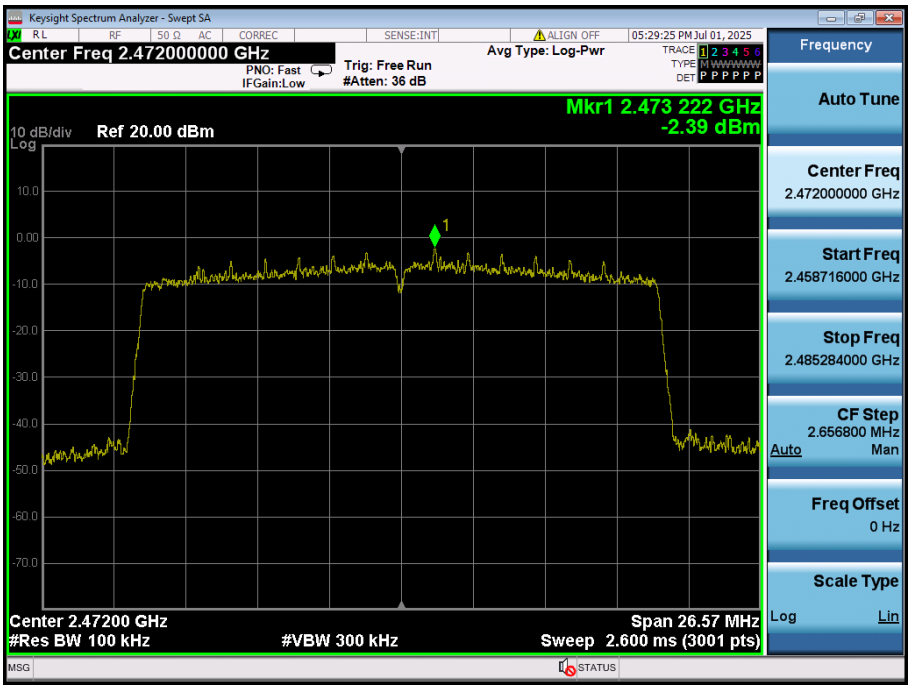
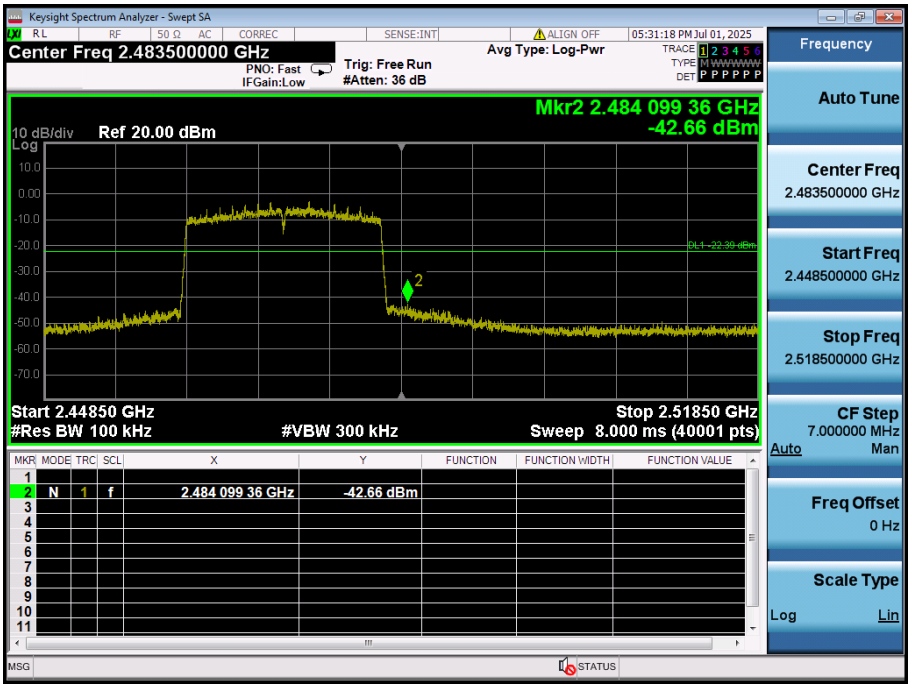


High Band-edge



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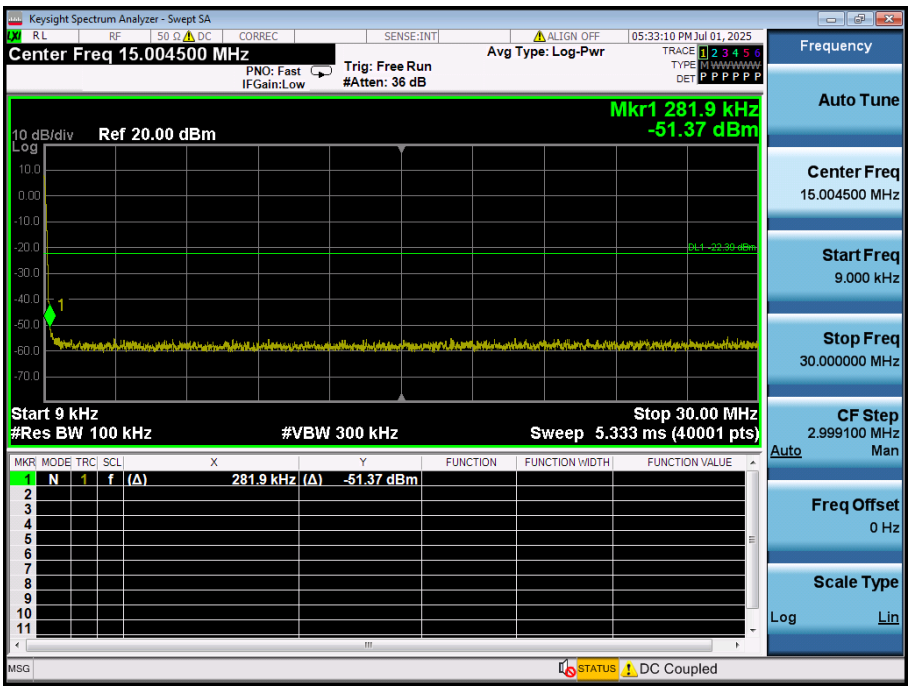

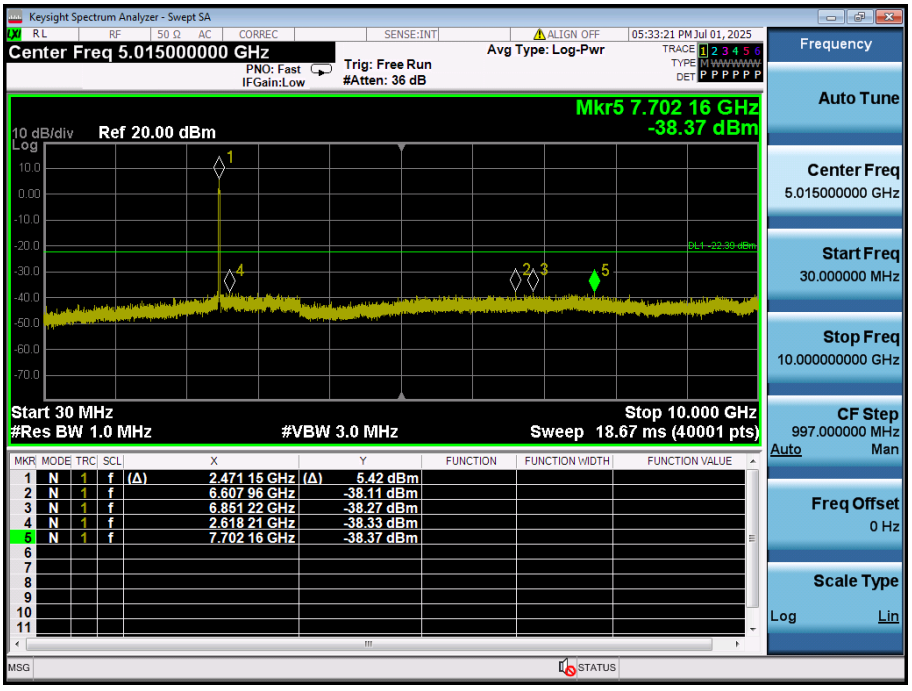

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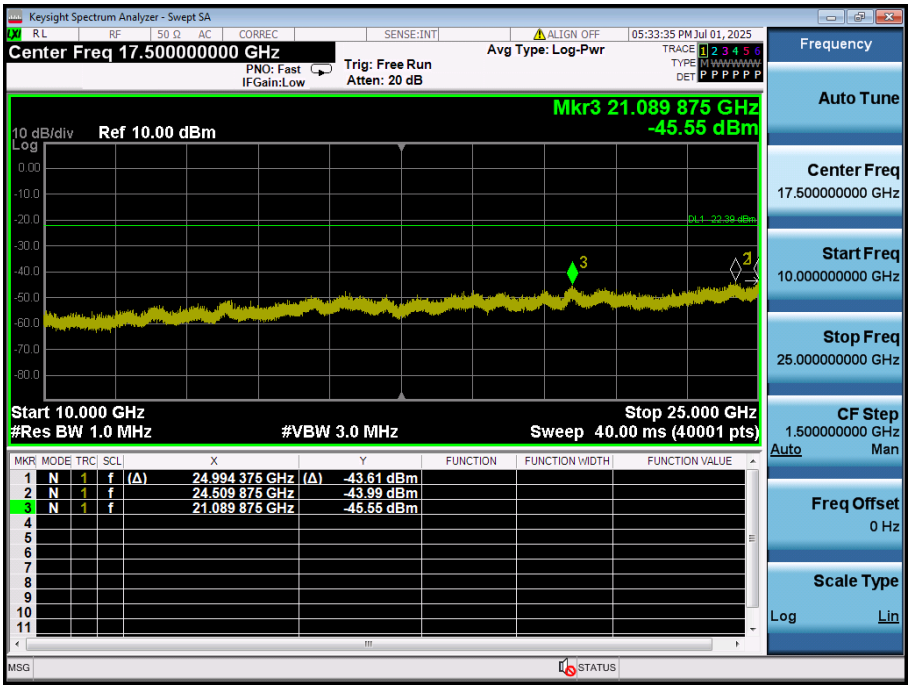

TM 1 & ANT 2 & 26 Tone & 0 RU & 2 412

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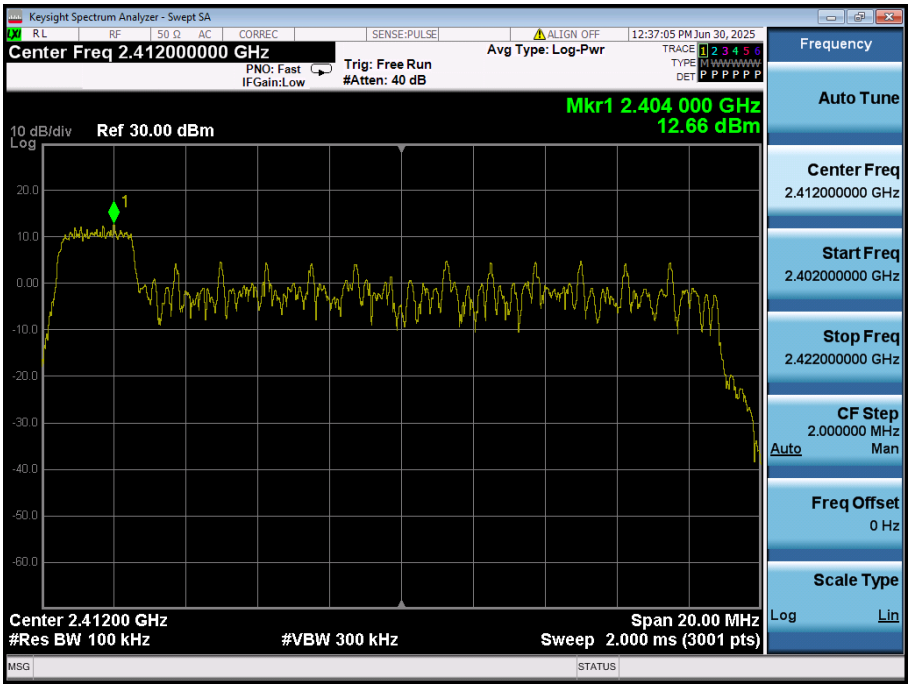
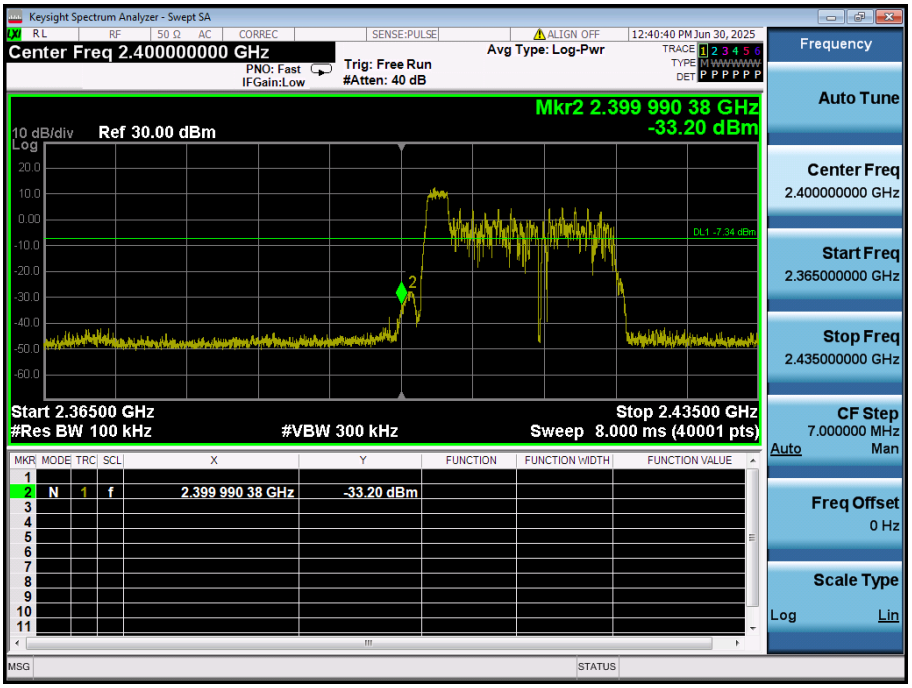


Low Band-edge



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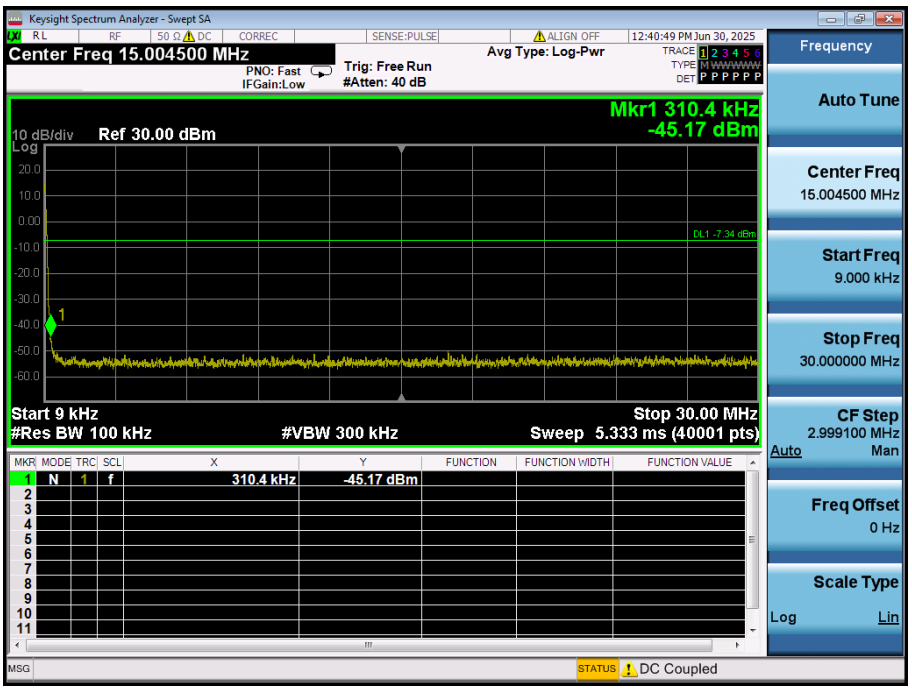

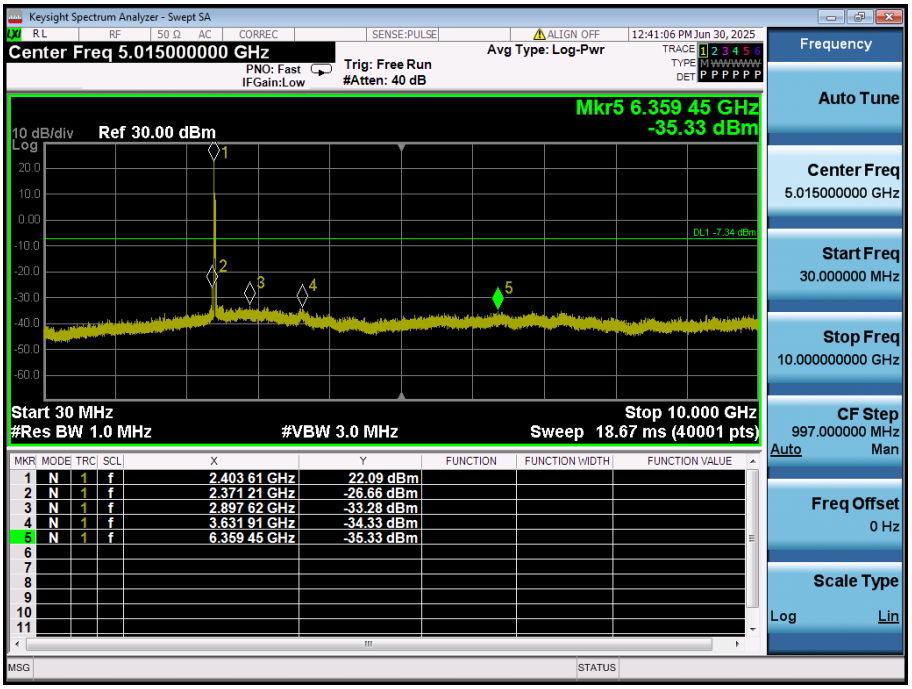

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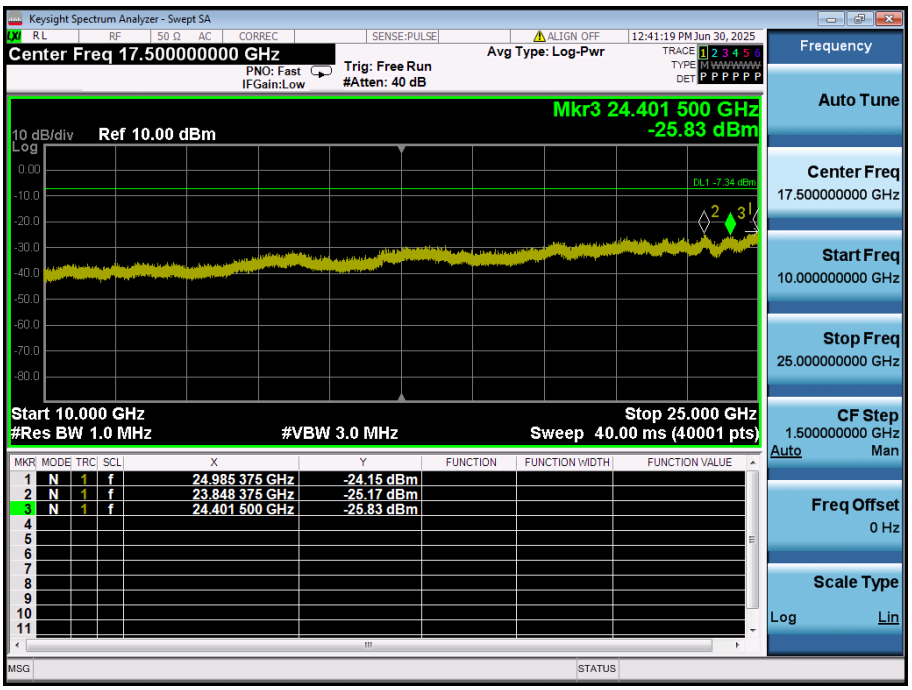
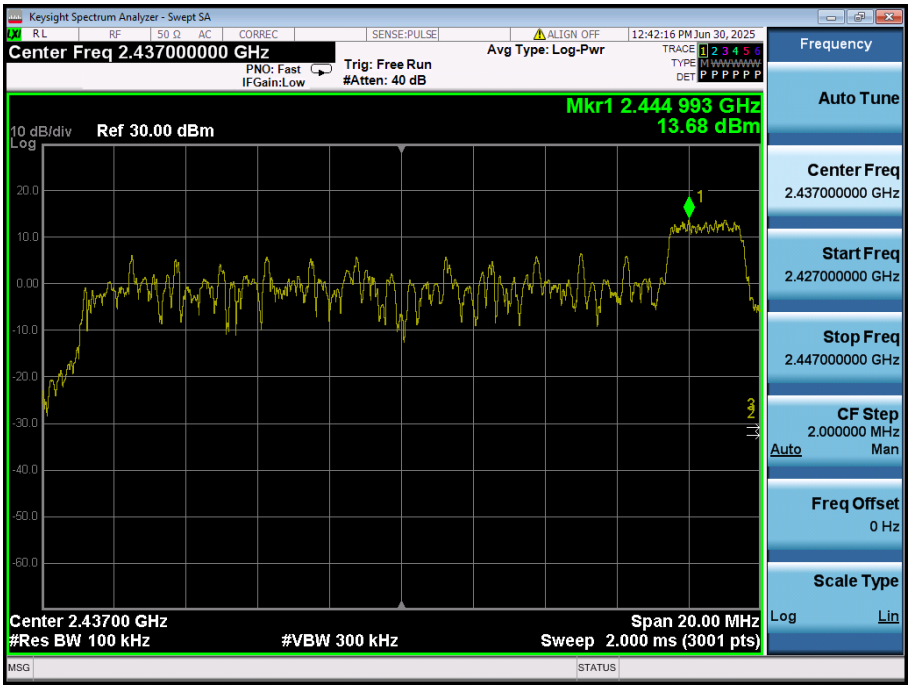


TM 1 & ANT 2 & 26 Tone & 8 RU & 2 437

Reference



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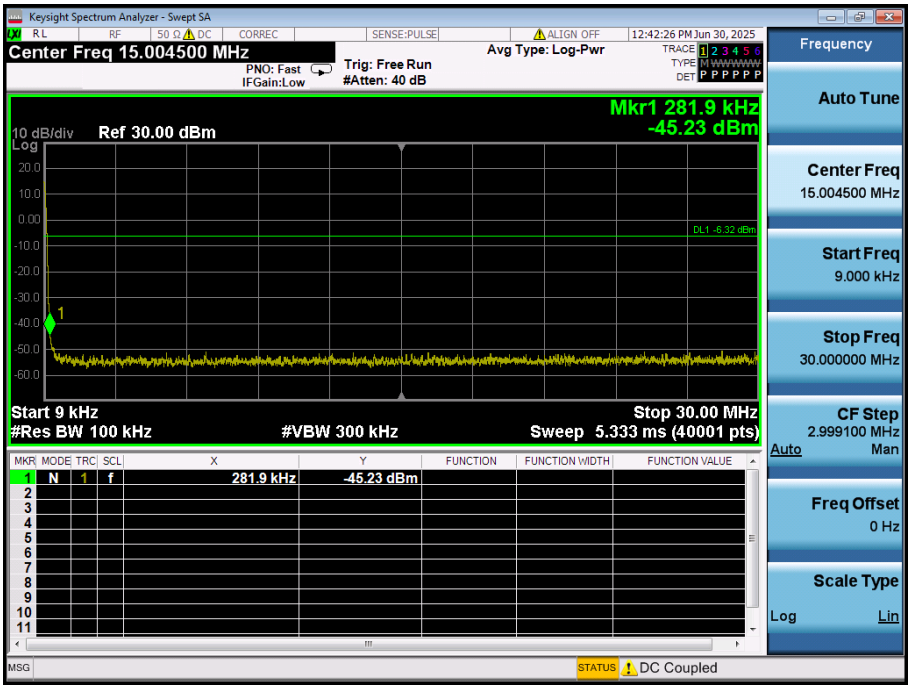

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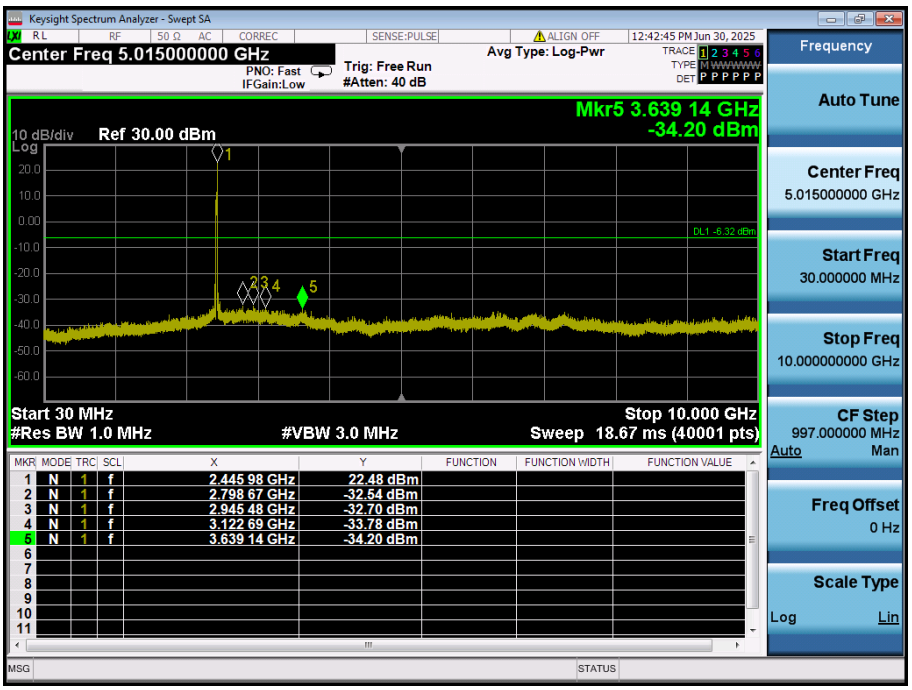

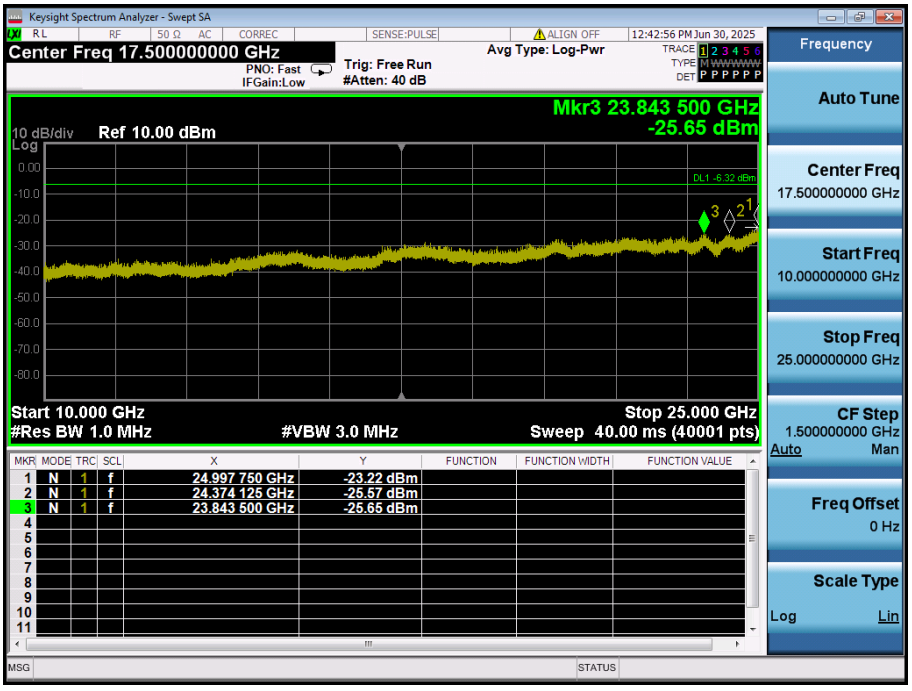

TM 1 & ANT 2 & 26 Tone & 8 RU & 2 472

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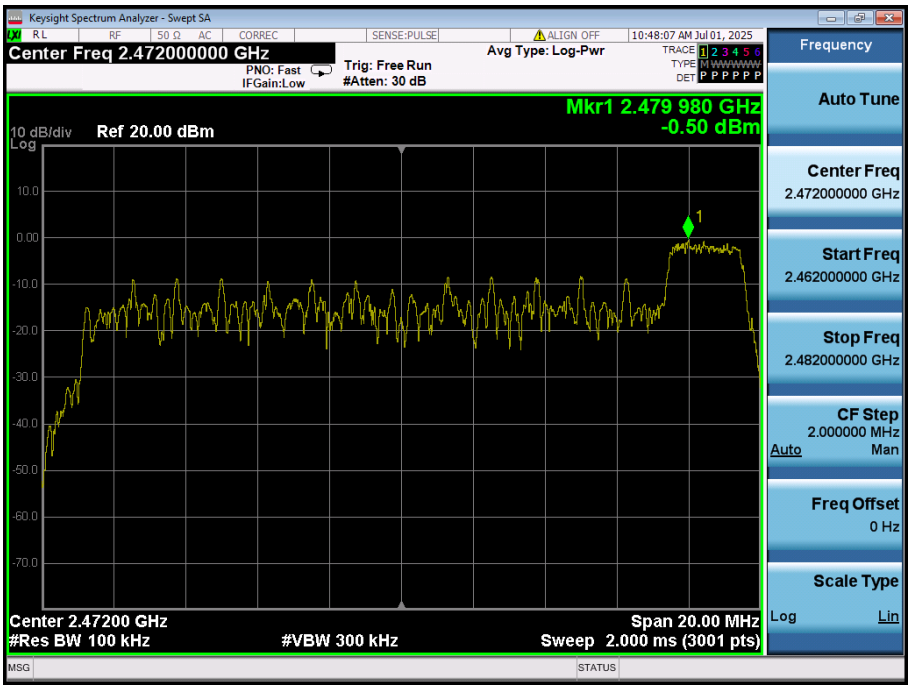
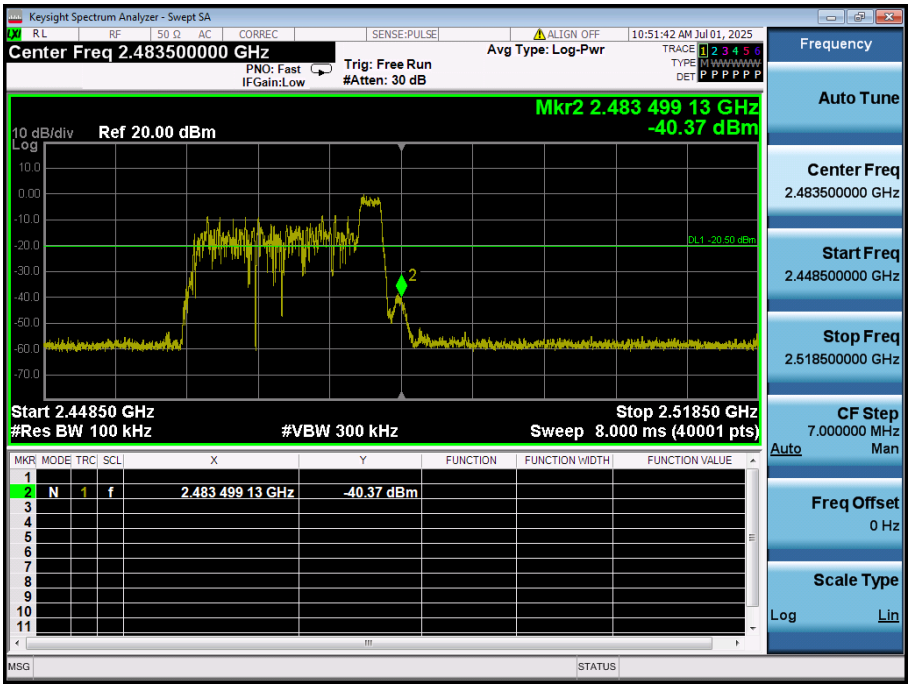


High Band-edge



Conducted Spurious Emissions